

Monsanto

LAW DEPARTMENT

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 694-1000

August 19, 1988

J. F. O'Connell III, Esq.
Thomas E. Sears, Inc.
John Hancock Tower, 47th Fl.
200 Clarendon St.
Boston, MA 02116

Terry M. Cosgrove, Esq.
Peterson, Ross, Schloerb & Seidel
200 E. Randolph Dr., Ste. 7300
Chicago, IL 60601

Re: Hillview Site (Palo Alto, CA)
Location Code: 0519997
Our File No: 880811

Gentlemen:

In connection with the above-referenced subject, enclosed is a copy of a Redmedial Action Order and related documents. An answer date is unspecified.

Your Law Department contact in this matter will be Stephen P. Krchma.

Please consult him concerning the progress and handling of this matter.

Sincerely yours,

T. M. Bistline (jw)

T. M. Bistline

jw1

enclosure

cc: R. S. Newell
R. E. Toth E3SA
B. J. Gilhousen
L. W. Higley
S. P. Krchma
N. Rozell

MCO 0163835

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BEFORE THE CALIFORNIA
DEPARTMENT OF HEALTH SERVICES

880811

AUG 19 1988

LAW DOCUMENT

RECEIVED

In the matter of:

3400 Hillview Avenue
Palo Alto, California
a Hazardous Waste Site.
AKA: SMITH KLINE &
FRENCH LABORATORIES

ocket No. [HSA 88-89-005]

REMEDIAL ACTION ORDER

Health & Safety Code,
Sections 25355.5, 205,
206, 25358.3

To: General Instruments Corporation, Monsanto Company, Gould,
Inc., Smith Kline and French Laboratories, Quality Technologies
Corporation, and Stanford University.

I

INTRODUCTION

The California Department of Health Services ("Department")
issues this Remedial Action Order to the above named Respondents
pursuant to California Health and Safety Code Sections 25355.5.,
205, 206 and 25358.3. The Department has determined that
releases or threatened releases of hazardous substances have
occurred at the above named Site. These releases constitute a
Public Nuisance as defined in Civil Code sections 3479 and 3480,
and may constitute an imminent or substantial endangerment to
the public health or welfare or to the environment.

II

FINDINGS OF FACT

1. The Hazardous Waste Site ("Site"), which is the
subject of this Remedial Action Order, is located at 3400

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Hillview Avenue, Palo Alto, Santa Clara County, California. A map of the Site is attached as Exhibit A.

2. November 1, 1966: Smith Kline and French Laboratories (1500 Spring Garden Philadelphia, PA 19101) leased the Site from Stanford University and became the first lessee of the Site.

3. During Smith Kline and French occupancy, a Trichloroethylene (TCE) storage tank was located on the ground level of the first floor, and TCE distribution lines were attached to the ceiling.

4. Smith Kline and French Laboratories manufactured medical electronic equipment.

5. January 28, 1972: Gould, Inc. (10 Gould Center Rolling Meadows, IL) subleased the site from Smith Kline and French Laboratories.

6. May 5, 1973: Monsanto Company (800 N. Linburgh Boulevard St. Louis, MO 63166) obtained the site lease from Smith Kline and French Laboratories.

7. The Monsanto Co. manufacturing consisted of light emitting diode preparation operations and headquarters for Optoelectronics.

8. During Monsanto Company occupancy, TCE and other solvents were utilized at the site, see Exhibit B.

9. June 20, 1979: General Instrument Corporation (GIC) (1775 Broadway New York, New York 10019) obtained the site lease from Monsanto Company.

10. General Instrument Corporation manufacturing consisted of wafer and die preparation for light emitting diodes and

1 related optical components.

2 11. During GIC occupancy, TCE and other solvents were
3 utilized at the site, see Exhibit C.

4 12. On 5/18/82 a fire inspection by the City of Palo Alto
5 indicated that there were potential leaks in the concrete
6 containment for hazardous waste storage in the basement.

7 13. March 14, 1988: Quality Technologies Corporation
8 (3400 Hillview Avenue Palo Alto, CA) obtained the site lease
9 and the Optoelectronics Division from General Instrument
10 Corporation.

11 14. Quality Technologies Corporation manufactures
12 Optoelectronic devices.

13 15. Stanford University (105 Encina Hall, Stanford, CA)
14 has been the property owner of the Stanford Research Park since
15 1983.

16 16. The facility at 3400 Hillview, Palo Alto, CA is
17 located in the Stanford Research Park.

18 17. August 1987: GIC contracted Levine-Fricke, Inc. (LF)
19 to perform a site evaluation of the property. LF installed 8
20 groundwater monitoring wells, retrieved soil samples from
21 borings, and performed a soil-gas survey. The depth to
22 groundwater is approximately 15 feet. The results of the site
23 evaluation revealed that Trichloroethylene (TCE) and
24 Tetrachloroethylene (PCE), along with other VOC's, were in local
25 groundwater; TCE was found in the highest concentration of the
26 reported VOCs in the soil and groundwater. The results of the
27 analysis are listed in Exhibits D&E.

18. The City of Palo Alto, population 55,225, receives its drinking water from the Hetch Hetchy Reservoir. Palo Alto also has municipal wells which are screened at approximately 800 feet, for emergency use in case water from the Hetch Hetchy system becomes unavailable. The site is completely located within the city limits. There are seven residential wells and two municipal wells (Matadero and Fernando) within 1.5 miles, downgradient from the site. TCE was detected with a concentration as high as 9.5 ppb in one of the residential wells. The other residential wells also had detectable concentrations of TCE and other VOC's, but the levels were below Department of Health Services Drinking Water Action Levels. State Drinking Water Action Levels are recommended Water Quality Guidelines, developed by the Sanitary Engineering Branch of the State Department of Health Services, based on mammalian toxicological data.

19. Trichloroethylene (TCE) has been found on site at concentrations as high as 10 ppm in the ground water and 0.4 ppm in the soil. Acute exposure to TCE depresses the central nervous system, causing such symptoms as headache, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting, and blurred vision. Repeated or prolonged skin contact with the liquid may cause dermatitis (Sittig, 1981). Long-term effects may include liver and kidney injury. TCE is included in IARC Category 3 (possible human carcinogen). TCE is a listed hazardous material (No. 744) in Section 66680, Title 22, California Administrative Code. The Department of Health

1 Services has established an Action Level of 5.0 ppb for TCE in
2 drinking water.

3 20. Tetrachloroethylene (PCE, Perchloroethylene) has been
4 found at concentrations as high as 0.39 ppm in the ground water.
5 Short term exposure of PCE through ingestion and inhalation may
6 cause nausea, vomiting, headache, dizziness, drowsiness, and
7 tremors. Liver and kidney toxicity are the long-term effects.
8 PCE has been classified by the IARC in Category 3 (possible
9 human carcinogen). PCE is a listed hazardous material (No. 576)
10 in Section 66680, Title 22, California Administrative Code. The
11 Department of Health Services Action Level for PCE in drinking
12 water is 4.0 ppb.

13 21. Chloroform has also been detected in the ground water
14 at concentration as high as 0.003 ppm. Humans may be exposed to
15 chloroform through inhalation, ingestion, and dermal contact.
16 Chloroform is a central nervous system depressant and may cause
17 kidney and liver damage gastrointestinal irritation, and/or
18 cardiac arrest at elevated concentrations. There is evidence
19 that suggests chloroform induces mutagenic activity in animals,
20 while conflicting data exist for linking chloroform with
21 teratogenic disorders (U.S. EPA, 19856). A link between
22 chloroform exposure and animal cancer has been developed. The
23 U.S. EPA rates chloroform as a probable human carcinogen (B2)
24 from limited evidence in humans but sufficient evidence in
25 animals (U.S. EPA, 1985;). Chloroform is a listed hazardous
26 material (No. 194) in Section 66680, Title 22, California
27 Administrative Code. The Departments Action Criterion for

Monsanto

LAW DEPARTMENT

Monsanto Company
800 N. Lindbergh Boulevard
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25 groundwater; TCE was found in the highest concentration of the
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27 Administrative Code. The Departments Action Criterion for

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION
1111 JACKSON STREET, ROOM 6040
OAKLAND 94607

Phone: Area Code 415
464-1255



File No. 2189.8284
January 28, 1988

Mr. Clifford B. Hunter
Clifford B. Hunter, Inc.
917 Morse Street
San Jose, CA 95126

Mr. Dale Wilson
Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, Missouri 63167

Mr. Pete Fraser
Kimball Small Properties
121 Park Center Plaza, Eighth Floor
San Jose, CA 95113

Subject: Transmittal of Tentative Order for the property located at
2710 Lafayette Street

Dear Mr. Hunter, Mr. Wilson and Mr. Fraser:

The following changes were made to the tentative order for the property at 2710 Lafayette Street since the first tentative order was mailed to you in September 1987.

1. "Hunter Technology Corporation" is referred to as "Hunter Technology Acquisition Company doing business as Hunter Technology Corporation" pursuant to Mr. Hunter's December 28, 1987 letter which states that the assets of the corporation were sold to Hunter Technology Acquisition Company which is continuing to do business as Hunter Technology Corporation.
2. "Monsanto Chemical Company" is referred to as "Monsanto Company".
3. "Kimball Small Properties" is referred to as "CAMSI IV".
4. The site is referred to as "the property located at" instead of "the former Monsanto Chemical Company property located at".

Findings

Finding 1: Added one sentence regarding CAMSI IV.

Finding 2: Changed the wording of the last sentence.

MONBAD.002954

Finding 4: This is a modified version of former Finding 5.

Finding 5: New

Finding 6: New

Finding 7: New - modified version of former Finding 6.

Finding 8: Modified version of former Finding 7.

Specifications

Specification 2: Modified version of former Specification 2.

Provisions

Provisions 1 and 2 : Modified versions of former Provisions.

Tasks:

Added 2.a.1) and 2).

2.b - Expanded version of former task 2.a.

Added 2.d.

Off-site tasks were combined with on-site tasks.

Page 8: Added an additional guidance document at the bottom of Provision 3.

Page 8 - Provision 5 - First paragraph: Changed date from January 15 to April 15. In the second paragraph, changed the date from March 1 to April 15.

Page 9 - Provision 6: A site safety plan is due on May 1 instead of Decmeber 1.

Page 10 - Provision 11: Modified wording.

Page 10 - Provision 11: Changed order of dischargers and changed wording.

Page 10 - Provision 12: Refer to the companies has dischargers instead of individually.

Page 10 - Provision 13: Refer to Kimball Small as CAMSI IV.

Added a self-monitoring plan.

MONBAD.002955

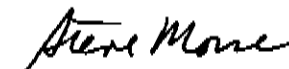
MCO 0050853

Comments or recommendations you may have concerning this tentative order should be submitted in writing to this Regional Board by February 25, 1988. Three weeks should be sufficient time to review and submit comments regarding this Tentative Order since the companies received a similiar version of the Tentative Order in September 1987 and Monsanto and Kimball Small (CAMSI IV) have already submitted comments regarding the original Tentative Order. Comments received after this date cannot be given full consideration. If written comments are not submitted, we will assume you have no objections to the Tentative Order.

If the Tentative Order is contested, the Regional Board staff will make a presentation at the Regional Board hearing regarding the merits of the Tentative Order and describing the nature of the objections to the Tentative Order. Anyone contesting the Tentative Order will have an opportunity to discuss their objections at the Regional Board hearing. If the Regional Board adopts the Tentative Order, anyone contesting the Order can appeal the Regional Board's decision to the State Board provided an appeal is filed within thirty days of adoption of the Order. The process for filing an appeal to the State Board is contained in California Administrative Code Section 2050.

If you have any questions, contact Diane Heinze at 415-464-0305.

Sincerely,



Steve Morse, Chief
South Bay Division

cc: Judi Craik: Hunter Technology Corporation
Adam Moutafian, Hunter Technology Corporation
Charles Almestad, Kleinfelder Associates
Allen Lund, Safety Specialists
Jerry McGuire, Monsanto Company
Tom Iwamura, SCVWD
Robert Campbell, City of Santa Clara
Citizens for a Better Environment

MONBAD.002956

MCO 0050854

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE ORDER

SITE CLEANUP REQUIREMENTS FOR:

HUNTER TECHNOLOGY ACQUISITION CORPORATION,
doing business as HUNTER TECHNOLOGY CORPORATION,
MONSANTO COMPANY, and
CAMSI IV

for the property located at:

2710 LaFayette Street
Santa Clara
Santa Clara County

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Monsanto Company (formerly Monsanto Plastics and Resins Company) owned 25 acres of property in Santa Clara, 8 acres of which were used to manufacture plastics and resins from 1950 until 1983. In 1968, Monsanto Company leased a building on this property (985 Walsh Avenue) to Hunter Technology Corporation who manufactured printed circuit boards until 1983. In 1983, Monsanto Company negotiated an exchange of the property with TICOR Title Insurance. TICOR sold the property to Ronald N. Sakauye who sold the property to Kimball Small Properties in 1984. Kimball Small Properties held title to the property until the CAMSI IV partnership was formed in 1985. CAMSI IV currently owns the property. All buildings were demolished when Monsanto and Hunter vacated the site. No new facilities have been constructed and the site exists as an open field.
2. Monsanto disposed liquid waste (water with some salts mixed with amino and phenolic resins) in a two acre evaporation pond from the mid-1960s until 1975 and solid waste (resins, construction debris and domestic refuse) in seven trenches just north of Walsh Avenue during the 1950s and 1960s. The Regional Board adopted Waste Discharge Requirements Order No. 85-93 in July 1985 requiring Monsanto and Kimball Small to investigate and remediate chemicals, primarily HMBA, originating from Monsanto's evaporation pond and buried trenches. This Order addresses the investigation and remediation of VOC pollution associated with facilities on Monsanto's former property located east of the evaporation pond and buried trenches.
3. In order to define the extent of groundwater pollution in compliance with Order No. 85-93, Monsanto installed three monitoring wells off-site (downgradient from their facility) in

MONBAD.002957

April 1986. One well located downgradient and off-site from Monsanto's and Hunter's former facilities detected 2200 ppb trichloroethene (TCE), 230 ppb trans 1,2 dichloroethene and lower concentrations of 1,1,1 trichloroethane (TCA), 1,1 dichloroethane (DCA), and 1,1 dichloroethene (DCE). (These chemicals are collectively referred to as volatile organic chemicals or VOCs.)

4. Chemical usage information supplied by Monsanto indicates that they did not use VOCs in their processes although low concentrations of VOCs (less than 75 ppb) were detected in monitoring wells installed in the vicinity of Monsanto's former evaporation pond and buried trenches. (Monsanto's evaporation pond and buried trenches were located west of the buildings occupied by Monsanto and Hunter and the area where high concentrations of VOCs have been detected in groundwater - Site Map.) Hunter did use VOCs and operated a sump where rinse wastewaters were temporarily stored.
5. Unsaturated soil samples have been obtained at twelve locations on-site to identify possible source areas. In an area formerly occupied by Hunter, 1 mg/kg TCE was detected in one soil sample. Lower concentrations of TCE (up to 0.290 mg/kg) were also detected in this area and in other areas. (Low concentrations of VOCs in unsaturated soil samples may be the result of vapor transport from polluted groundwater and thus may not be indicative of source areas.) One shallow soil sample in the vicinity of one of Hunter's chemical storage areas detected 17,800 mg/kg copper, 1,600 mg/kg lead, and 210 mg/kg nickel. The concentrations of copper and lead are above the Toxic Threshold Limit Concentration for these metals (2,500 mg/kg for copper and 1,000 mg/kg for lead) and thus the soil in this area is considered hazardous waste. Propanone was also detected at this location at 1 mg/kg. Lastly, at one boring location near Monsanto's former tank farm, a strong odor was detected in the soil the source of which was not identified during soil analysis. Additional soil sampling and analyses are required: 1) immediately adjacent to former sewer lines, if possible, and the sump to determine whether these units were sources of VOC pollution; 2) to determine the extent of metals contamination; and 3) to identify the chemicals causing the odor near Monsanto's former tank farm.
6. Monsanto recently installed six monitoring wells to determine the lateral extent of groundwater pollution at the site. The results revealed that groundwater in the upgradient portion of the site contains up to 230 ppb TCE and that groundwater on-site contains up to 2300 ppb TCE. Thus, a major source of TCE pollution exists on-site. The plume extends beyond the property boundaries and additional monitoring wells are required to determine the lateral and vertical extent of groundwater pollution.

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7. The primary source of VOCs detected in the groundwater on-site appear to originate from the site because: 1) up to 2300 ppb TCE were detected on-site compared to 230 ppb TCE at the upgradient portion of the site; 2) 1000 ug/kg TCE were detected in an unsaturated soil sample near Hunter's former facility; 3) VOCs were used by Hunter who also utilized a subsurface unit; 4) wells installed between the site and a potential upgradient source (Technical Coatings Company) did not detect TCE. Although it is possible that the concentrations of TCE detected on the upgradient portion of the site resulted from poor chemical handling practices on-site or leaky sewer pipes, the Regional Board staff will continue to investigate the possibility of additional contributing sources.
8. Hunter (hereinafter referred to as a discharger) is a discharger because releases of the types of VOCs used in their industrial processes have been found in the soil and groundwater in the area of their former facility. Monsanto (hereinafter referred to as a discharger) is a discharger because of their ownership of the property for thirty three years during which releases of chemicals have occurred from facilities occupied by Monsanto or their tenant. CAMSI IV (hereinafter referred to as a discharger) is a discharger because they are the current owner of the property where these releases occurred and continue to occur.
9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.
10. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
- a. Industrial process water supply
 - b. Industrial service water supply
 - c. Agricultural water supply
 - d. Municipal and domestic supply
11. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
12. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
13. Interim containment and cleanup measures need to be implemented to alleviate the threat to the environment posed by soil pollution and the continued migration of the groundwater plume of VOCs and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.

MONBAD.002959

14. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. Hunter and Monsanto shall conduct monitoring activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution as set out in this Order. Should monitoring results show evidence of plume migration, additional plume characterization of pollutant extent may be required. If the Executive Officer determines and notifies CAMSI IV that Hunter and Monsanto have failed to comply with this paragraph, CAMSI IV, as landowner, shall comply with this Specification within sixty days. Nothing in this paragraph is intended nor shall be construed as relieving Hunter and Monsanto of their liability.

C. PROVISIONS

1. Hunter and Monsanto shall submit to the Board acceptable monitoring program reports containing results of work performed according to a program to be prepared by the Board's Executive Officer. If the Executive Officer

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determines and notifies CAMSI IV that Hunter and Monsanto have failed to comply with this paragraph, CAMSI IV, as landowner, shall comply with this Provision within sixty days. Nothing in this paragraph is intended nor shall be construed as relieving Hunter and Monsanto of their liability.

2. Hunter and Monsanto shall comply with Prohibitions A.1., A.2., and A.3., and Specifications B.1. and B.2. above according to the time schedule and tasks below. If the Executive Officer determines and notifies CAMSI IV that Hunter and Monsanto have failed to comply with this paragraph, CAMSI IV, as landowner, shall comply with this Provision within sixty days. For subsequent, related tasks, CAMSI IV will have sixty additional days beyond the dates specified in this Order. Nothing in this paragraph is intended nor shall be construed as relieving Hunter and Monsanto of their liability.

COMPLETION DATE/TASK:

- a. 1) COMPLETION DATE: April 4, 1988

TASK: SAMPLE EXISTING WELLS OW-1 - OW-6:

Submit a technical report acceptable to the Executive Officer containing a proposal to sample wells OW-1 - OW-6 using EPA Method 8240 for priority and non-priority pollutants, EPA Method 8270 for extractable priority pollutants and a test for all heavy metals.

- 2) COMPLETION DATE: May 2, 1988

TASK: COMPLETION OF SAMPLING MONITORING WELLS:

Submit a technical report acceptable to the Executive Officer containing the results of sampling monitoring wells OW-1 - OW-6.

- b. 1) COMPLETION DATE: April 13, 1988

TASK: IDENTIFY SOURCES AND CHARACTERIZE SOIL POLLUTION:

Submit a technical report acceptable to the Executive Officer containing a proposal to identify all pollution sources on-site and to define the horizontal and vertical extent of soil pollution. Specifically, the dischargers shall determine the location of the former sump and, if possible, former sewer lines to determine whether they are sources of VOC pollution, the extent of metals pollution, and the source and extent of odoriferous pollutants near Monsanto's former tank farm.

MONBAD.002961

2) COMPLETION DATE: July 5, 1988

TASK: COMPLETION OF IDENTIFICATION AND CHARACTERIZATION: Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 2.a.1).

c. 1) COMPLETION DATE: April 13, 1988

TASK: GROUNDWATER POLLUTION CHARACTERIZATION: Submit a technical report acceptable to the Executive Officer containing a proposal to define the horizontal and vertical extent of groundwater pollution.

2) COMPLETION DATE: July 5, 1988

TASK: COMPLETION OF GROUNDWATER CHARACTERIZATION: Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 2.b.1).

d. 1) COMPLETION DATE: July 26, 1988

TASK: FURTHER GROUNDWATER POLLUTION CHARACTERIZATION: If the extent of groundwater pollution is not adequately defined by the activities performed for Task C.2.c, submit a technical report acceptable to the Executive Officer containing a proposal to define the lateral and vertical extent of groundwater pollution.

2) COMPLETION DATE: October 24, 1988

TASK: COMPLETION OF GROUNDWATER CHARACTERIZATION: Submit a technical report acceptable to the Executive Officer containing the results of the investigation to define the extent of groundwater pollution.

e. COMPLETION DATE: August 5, 1988

TASK: HYDROGEOLOGIC TESTING: Propose hydrogeologic tests to be performed onsite which are necessary in order to evaluate interim cleanup alternatives, e.g., pump tests, soil venting, etc.

f. 1) COMPLETION DATE: October 3, 1988

TASK: INTERIM REMEDIAL ACTIONS: Submit a technical report acceptable to the Executive Officer which contains an evaluation of interim remedial alternatives based on the results of hydrogeologic testing identified in the

MONBAD.002962

technical report submitted for Task 2.c, a recommended plan for interim remediation onsite, and an implementation time schedule. This report shall evaluate the removal and/or cleanup of polluted soils; evaluate alternative hydraulic control systems to contain and to initiate cleanup of polluted groundwater; and include a completed NPDES application to discharge to surface waters, if such discharge is an element of the plan.

2) COMPLETION DATE: January 2, 1989

TASK: COMPLETION OF INTERIM REMEDIAL ACTIONS: Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 2.d.1).

g. 1) COMPLETION DATE: April 3, 1989

a) **TASK: EVALUATE INTERIM HYDRAULIC CONTAINMENT AND SOIL REMOVAL MEASURES:** Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the interim onsite hydraulic containment system. Such an evaluation shall include, but need not be limited to, an estimation of the pollutant capture zone of the cleanup system, establishment of the cones of depression by field measurements if groundwater extraction is proposed, and presentation of chemical monitoring data. This report shall also evaluate and document the removal and/or cleanup of polluted soils, if such removal and/or cleanup is an element of the remedial measure.

b) **MODIFICATION TO INTERIM ACTIONS:** Specific modifications to the system and an implementation time schedule shall be proposed in the event that the soil remediation or hydraulic control system is demonstrated not to be effective in containing and removing the onsite pollutants.

2) COMPLETION DATE: June 5, 1989

TASK: COMPLETION OF MODIFICATIONS TO INTERIM ACTIONS: Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified in the technical report submitted for Task 2.e.1) b).

h. COMPLETION DATE: June 5, 1990

TASK: PROPOSED FINAL CLEANUP OBJECTIVES AND ACTIONS: Submit a technical report acceptable to the Executive

MONBAD.002963

Officer containing the results of the remedial investigation; an evaluation of the installed interim remedial measures; a feasibility study evaluating alternative final remedial measures; the recommended measures necessary to achieve final cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

3. The submittal of technical reports evaluating immediate, interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCIA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California;" and the Regional Board staff's document entitled "Information to be Included in Proposals and Resultants Sampling Reports for Groundwater and Associated Soil Investigations."
4. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.
5. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted monthly to the Board commencing on April 15, 1988 and covering the previous month. On a monthly basis thereafter, these reports shall consist of a letter report that, (1) summarizes work completed since submittal of the previous report, and work projected to be completed by the time of the next report, (2) identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and (3) includes, in the event of non-compliance with Provision C.2. or any other Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

On a quarterly basis, commencing on April 15, 1988, technical reports shall be submitted which include, but need not be limited to, water level measurements taken

MONBAD.002964

quarterly and piezometric maps for all affected water bearing zones, maps indicating horizontal and vertical plume migration, cross-sectional geological maps describing the hydrogeological setting of the site and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

6. The dischargers shall submit to the Board according to the schedule shown below, technical reports acceptable to the Executive Officer containing Quality Assurance Project Plans, Site Safety Plans, and Site Sampling Plans. The Quality Assurance Project Plans, Site Safety Plans, and Site Sampling Plans format and contents shall consider CERCLA regulations and guidance documents.

Technical Report

Date Due

- a. Site Sampling Plan
- b. Site Safety Plan

with all proposals
June 1, 1988

7. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.
8. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
9. The dischargers shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
10. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:
 - a. Santa Clara Valley Water District
 - b. Santa Clara County Health Department
 - c. City of Santa Clara
 - d. State Department of Health Services/TSCD

The Executive Officer may additionally require copies of correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order to be provided to the U.S. Environmental Protection Agency, Region IX, and to a local repository for public use.

MONBAD.002965

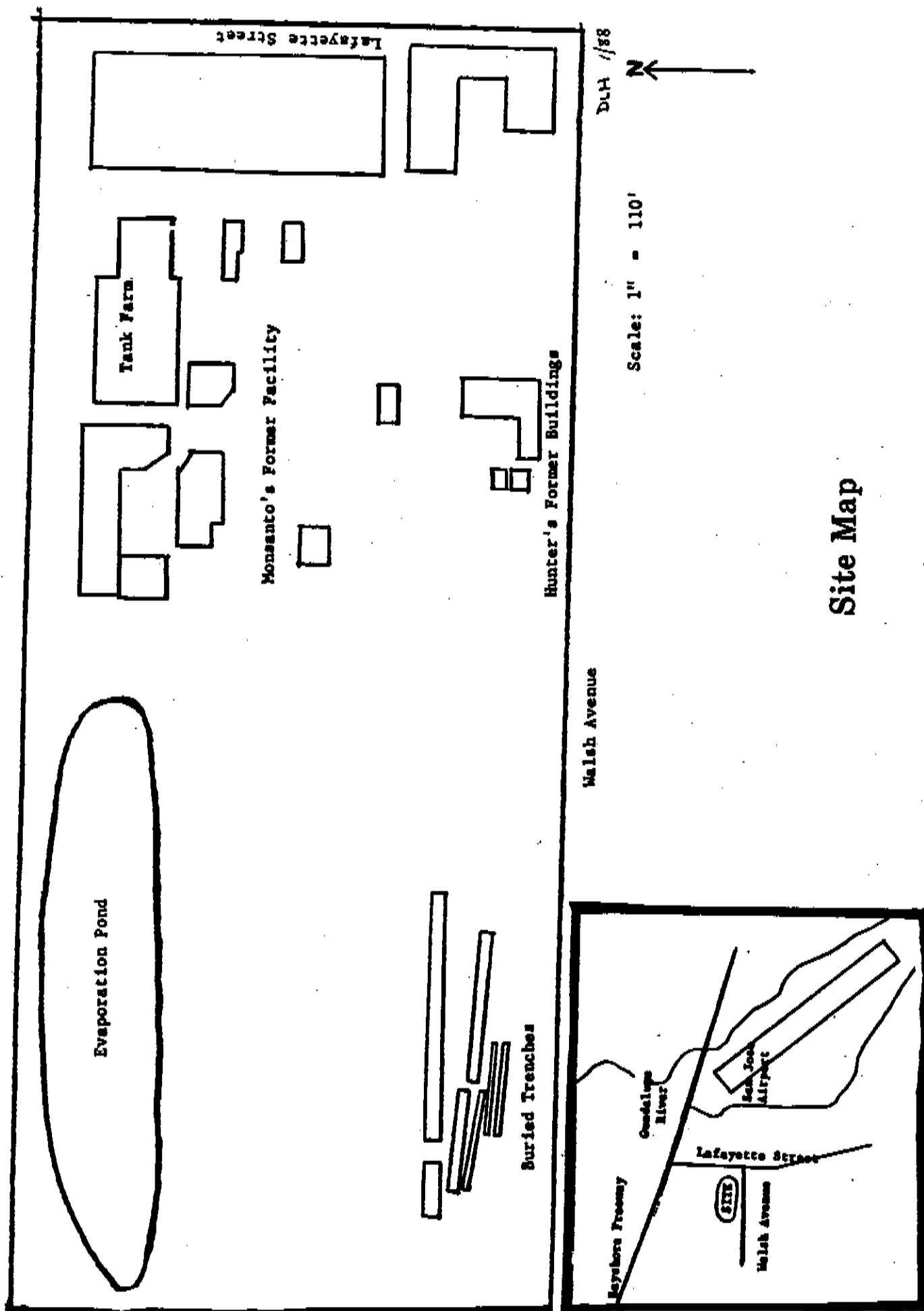
11. If the Executive Officer determines and notifies CAMSI IV that Hunter and Monsanto have failed to comply with this paragraph, CAMSI IV, as landowner, shall comply with this Provision within sixty days. Nothing in this paragraph is intended nor shall be construed as relieving Hunter and Monsanto of their liability.
12. The dischargers shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
13. CAMSI IV shall file a report on any changes in site occupancy and ownership associated with the facility described in this Order.
14. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.
15. The Board will review this Order periodically and may revise the requirements when necessary.

MONBAD.002966

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

Roger B. James
Executive Officer

MONBAD.002967



Site Map

DEPARTMENT OF HEALTH SERVICES

2151 BERKELEY WAY
BERKELEY, CA 94704

(415) 540-2043



NOTICE OF VIOLATION

Certified No. P26 5025662

November 16, 1981

Mr. John B. Grimes,
Technical Supervisor
Monsanto Company
1771 Monsanto Way
Martinez, CA 94553

Dear Mr. Grimes:

On July 14, and July 22, 1981 inspections of your facility were conducted by Sonia P. Santos of the Hazardous Waste Management Branch.

Pursuant to Section 66328(c), California Administrative Code, you are hereby notified of the following conditions observed during the inspection which are alleged to be violations of the California Hazardous Waste Control Act (California Health and Safety Code, Division 20, Chapter 6.5) and California Hazardous Waste Control Regulations (California Administrative Code, (CAC), Title 22, Division 4, Chapter 30).

1). In the past, extremely hazardous wastes had been disposed of without an Extremely Hazardous Waste Disposal Permit as required in Section 66570(b) CAC. Laboratory reagents such as arsenic trioxide, carbon disulfide, mercury, etc. are extremely hazardous wastes.

During the July 22, 1981 inspection, a soil sample SPS #378 was taken under the 98% sulfuric acid pump. This sample has been analyzed by the California Hazardous Materials Laboratory. The results revealed that the concentration limits for the heavy metals were exceeded, so that the material would be considered hazardous waste; zinc, lead, and mercury (see attached laboratory reports). Compound containing more than 200 parts per million (ppm) mercury are extremely hazardous wastes as listed in table IV of the California Assessment Manual.

Section 66300 CAC requires that any hazardous material disposed of to land, accidentally discharged to land, or accidentally spilled onto land be managed as a hazardous waste.

MCO 0039457

MONBAD.002969

November 16, 1981

Section 66490 CAC states that "no person shall dispose of a hazardous waste on land except at a site for which an appropriate Hazardous Waste Facility Permit has been issued by the Department.

Section 66328(d) CAC states: "If corrections are needed, the operator shall provide to the Department a written plan of correction which states the actions to be taken and the expected dates of completion."

You are hereby directed to remove all contaminated soil from the Monsanto property which according to visual inspection is contaminated with spilled chemicals.

You are also directed to submit a Plan of Correction to this office pursuant to Section 66328(d) CAC, which describes the steps you will take to:

- a) correct the deficiencies brought to your attention in this Notice of Violation,
- b) remove and dispose of the contaminated soil based on visual observation. Prior to disposal of this material you must obtain an extremely hazardous waste disposal permit from this office.

The contaminated soil shall be wetted as needed to minimize airborne dust formation during excavation without causing runoff. Soil shall be transported by a hauler registered with the Department of Health Services. The hauler will carry a hazardous waste manifest with each load of soil that states that it contains zinc, lead, and mercury. The soil shall be transported so that no particles can drop or blow from the vehicle during transit. It shall be delivered to an authorized Class I disposal site for immediate burial. All applicable regulations of subchapter 8, chapter 4, Title 8 of the California Administrative Code for workers protection shall be complied with.

When you are ready to remove the soil please notify this office no less than 48 hours before the removal operation begins. Verification of disposal in the form of a California Hazardous Waste Manifest with all sections completed must be submitted to this office following removal of the soil.

Your Plan of Correction must be received at this office by December 19, 1981.

MCO 0039458

MONBAD.002970

November 16, 1981

The information gathered and the inspections made by Sonia Santos revealed that your firm is currently not engaged in operations which would require a Hazardous Waste Facility Permit. Therefore your Interim Status Document will be withdrawn.

Your attention is directed to Sections 25188, 25189, and 25191 of the California Hazardous Waste Control Law, which provide for civil and criminal penalties of up to \$25,000 per day per violation for violations of the California Hazardous Waste Control Law and Regulations.

If you have any questions concerning this matter please contact Sonia P. Santos of this office

Sincerely,

Harry Seraydarian

Harry Seraydarian,
Regional Administrator
Hazardous Waste Management Branch

cc: Peter A. Rogers, Chief-HWMB

Mr. James Mahoney, President
Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, Missouri

Harold Singer
SFRWQCB
1111 Jackson Street, Rm. 6040
Oakland, CA 94607

Kathleen Schimmin
U.S. EPA Region IX
215 Fremont Street
San Francisco, Ca 94105

Dan Bergman, Director
Contra Costa Environmental Health
1111 Ward Street
Martinez, CA 94553

MCO 0039459

MONBAD.002971

Monsanto

LAW DEPARTMENT

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 694-1000

October 8, 1987

Dwight R. Hoenig
Chief, North Coast California Section
Toxic Substances Control Division
Department of Health Services
2151 Berkeley Way, Annex 7
Berkeley, CA 94705

Re: Proposed Determination of Non-compliance with Remedial
Action Order No. HSA 87/88-002RA

Dear Mr. Hoenig:

It has come to my attention that our September 3, 1987 letter on this subject contained a significant typographical error. On page 2 of that letter we stated that Monsanto had purchased 100% of the shares of Wood Treating Chemicals Company (WTCC) stock on February 19, 1961. The actual date of the purchase was February 15, 1963.

This is significant because it was in July 1963, less than five months after Monsanto had purchased WTCC, that the site in question was subleased to the Garrity Company.

Please contact me if there are any further questions concerning this matter.

Very truly yours,



Stephen P. Krichma
Assistant Environmental Counsel

ehEL214/139
cc: Gregory H. Tomlin

MCO 0002192

MONBAD.002972

Monsanto

LAW DEPARTMENT

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 684-1000

October 8, 1987

VIA AIRBORNE

Dwight R. Hoenig
Chief, North Coast California Section
Toxic Substances Control Division
Department of Health Services
2151 Berkeley Way, Annex 7
Berkeley, CA 94705

Re: Embarcadero Cove, Oakland, California
Remedial Action Order No. HSA 87/88-002RA

Dear Mr. Hoenig:

Since our letter to you on this subject dated September 24, 1987, Monsanto and the Port of Oakland (Port) have been conducting a series of discussions on the proposed cleanup related to the remedial action order referenced above. These discussions have included frank presentations of our respective positions on liability for any such cleanup. Monsanto's position in this regard has been set forth in our prior correspondence on this matter dated August 27, 1987, September 3, 1987 and September 24, 1987.

While Monsanto continues to adhere to the positions described in this prior correspondence, we have actively sought to resolve the contribution claims alleged by the Port in relation to this site. Both the Port and Monsanto have made substantive offers which have in turn generated positive discussions of the issues involved. One of the key issues remains the apparent reluctance of the Department of Health Services (DOHS) to take action against any lessee of the subject site other than Wood Treating Chemicals Company (WTCC).

As indicated in the Port's September 30, 1987 letter to Howard Hatayama of the DOHS on the subject, additional parties appear to have been in a position to contribute to the alleged contamination at the site. For example, aerial photos from as far

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MCO 0002193

back as 1946, during Texaco's occupation of the site, show contaminant stains around two of the three groups of vertical tanks. Furthermore, as part of its operations at the site, Texaco apparently constructed and used a drum cleaning building. This led the DOHS in its April 13, 1987 review of the Port's Feasibility Study, to suggest that such drum cleaning probably involved the use of chlorinated solvents and therefore necessitated soil and groundwater analyses for such contamination. Free-phase oily substances have also been found in the groundwater and could have been related to pre-WTCC operations. However, little information has been developed as to what substances Texaco or Ventura Oil handled at this site.

As for uses of the site subsequent to WTCC's operations, DOHS records reflect that for some seven years Garrity Company handled the same products as WTCC, plus additional pesticides and herbicides. Also, the buildings were demolished in early 1970, with no information available as to what contaminants or materials may have been spread or released from the buildings or tanks during demolition. Since the demolition, the site has been vacant for some 15 years, with soil and other debris from unspecified off-site locations having been placed on the site. No information appears to have been developed as to the contamination which could have resulted from such conditions.

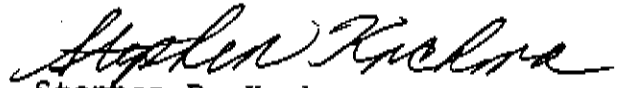
Based upon the foregoing observations, Monsanto finds it difficult to accept the position that WTCC's operations were responsible for all contamination at the site. For Monsanto to be able to set aside its substantial legal defenses as described in prior correspondence and achieve an agreement with the Port on a contribution claim, additional efforts to involve other potentially responsible parties are necessary. Accordingly, we support the request of the Port for a meeting to discuss this key issue.

We also wish to be in a position to deal with the Port's contribution claims in an open and straightforward manner. These claims are based upon the Port's fulfillment of the DOHS Remedial Action Order. Since the Port has now agreed to carry out this Order, further DOHS action against Monsanto would serve no purpose. The issue now is how Monsanto and the Port can resolve the Port's contribution claim. Continued insistence on including Monsanto in the order will only force Monsanto to take all appropriate defensive steps to protect its legal positions instead of allowing us to resolve this matter in a practical, direct manner with the Port.

Therefore, we request that DOHS withdraw the Remedial Action Order as to Monsanto and assist the Port and Monsanto in identifying all the potentially responsible parties involved at the site. This will allow the Remedial Action to proceed in an expeditious manner and at the same time provide an opportunity for the parties to resolve whatever liabilities they may have at the site.

Please advise as to when the Port and ourselves can meet with you to discuss the identification of the additional potentially responsible parties. In the meanwhile, if you have any questions relating to the matters discussed above, please call.

Very truly yours,



Stephen P. Krichma
Assistant Environmental Counsel

ehEL214/136

cc: Gregory Tomlin

MONBAD.002975

MCO 0002195

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL DIVISION
2151 BERKELEY WAY, ANNEX 7
BERKELEY, CA 94704

JUL 15 1987



July 9, 1987

CERTIFIED MAIL

Mr. R.J. Mahoney, Chairman
Monsanto Company
800 N. Lindbergh
St. Louis, MO 63167

Dear Mr. Mahoney:

PORT OF OAKLAND, EMBARCADERO COVE, OAKLAND, CALIFORNIA
REMEDIAL ACTION ORDER NO. HSA 87/88-002RA

Enclosed is a Remedial Action Order for the Port of Oakland, Embarcadero Cove site. Among other things, the Order requires that Respondents conduct a remedial investigation to determine the full extent of contamination at the site and to determine the existing and potential impacts of that contamination to the human health and the environment.

Section V.A.1 of the Order requires the first response from Respondents within 20 calendar days from the effective date of the Order. Non-compliance with the terms of the Order will result in the Department undertaking the work and seeking, at a minimum, recovery of its costs plus ten percent for administrative costs from potentially responsible parties.

In addition to the requirements of the Order, pursuant to California Health and Safety Code, Division 20, Chapter 6.5, Section 25185.6, the Department requests that Monsanto provide the following information:

1. The time period your company partially and/or completely owned Wood Treating Chemical Company.
2. A list of all hazardous substances and hazardous wastes that Wood Treating Chemical Company stored, treated, recycled, disposed of, or otherwise handled at the Embarcadero Cove site when it was owned by your company (company is defined here and subsequently in this request as including its officers, employees, agents, servants, or attorneys). This list should specify the names, compositions, sources, and/or origin, quantities, and methods of containerization and handling of hazardous substances and hazardous wastes. Report liquids in terms of volume and solids in terms of weight.
3. A list of employees, agents, contractors, consultants, company officers, and other personnel who were associated

MONBAD.002976

MCO 0089443

with the site who may possess knowledge or information relevant to this inquiry. This list should include individuals' names, addresses, telephone numbers, and their job titles or functions or relationship to your company. This list should also identify those individuals responsible for the management of Wood Treating Chemical Company during Monsanto's period of ownership of the company.

4. Any and all information and a copy of all documents in the possession, custody, or control of your company which concern, refer, or relate to hazardous substances and hazardous wastes transported to or stored, treated, disposed or, or otherwise handled at the Embarcadero Cove site. This should include information regarding former site owners and lessees of the site and their hazardous substances and waste practices.

The scope of this request extends to all information independently developed or obtained by research on the part of your company, your attorneys, consultants, or any of their agents, consultants, or employees. Please note that the documents requested include, but are not limited to contracts, leases, purchase orders, shipping documents, bills of lading, invoices, and any other documents showing the origins, quantities, dates of shipment, destinations, numbers of containers, and any analyses of hazardous substances and wastes.

State statutes governing confidentiality of business information are set forth in Section 25173 of the California Health and Safety Code. The State will construe the failure to furnish a claim of confidentiality with your response as a waiver of that claim, and information may be made available to the public without future notice.

Please submit the requested information within thirty days from the date of this letter. If you need additional time to respond, please submit a written request for a time extension. Identify the steps you plan to take to fully comply with this information request, and submit a proposed compliance schedule.

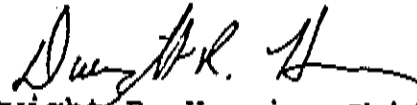
Failure to comply with this request for information may result in the Department seeking civil penalties of up to \$25,000 a day for each day of non-compliance, pursuant to Section 25191 of the Health and Safety Code.

Mr. R.J. Mahoney

-3-

If you have any questions regarding the remedial action order or the information request, please contact Denise Kato at (415) 540-3414.

Sincerely,



Dwight R. Hoenig, Chief
North Coast California Section
Toxic Substances Control Division

Certified # P 589 065 715

Enclosure

DRH:dk:dk

MONBAD.002978

MCO 0089445

cc: Ms. Stephanie Emery, Esq.
Monsanto Chemical Company
800 N. Lindbergh Blvd., E2NP
St. Louis, MO 63167

Mr. Walter A. Abernathy,
Director
Port of Oakland
P.O. Box 2064
Oakland, CA 94607

Mr. Stanley Hebert, Esq.
Port of Oakland
P.O. Box 2064
Oakland, CA 94607

Mr. Charles R. Roberts,
Chief Engineer
Port of Oakland
P.O. Box 2064
Oakland, CA 94607

Mr. Donald Dalke
San Francisco Regional Water
Quality Control Board
1111 Jackson St., 6th Floor
Oakland, CA 94607

Mr. Rafat Shahid
Alameda County Health Department
470 27th Street, Room 325
Oakland, CA 94612

Mr. Jose Batista
Office of Assemblyman Elihu Harris
1111 Jackson Street, Room 5027
Oakland, CA 94607

Mr. Mickey Fearn
Office of Mayor Lionel Wilson
One City Hall Plaza
Oakland, CA 94612

Mr. Robert Ekedahl
Sonoma Pacific Company
2100 Embarcadero
Oakland, CA 94606

Ms. Susan Bertken, Esq.
Office of Legal Services
Toxic Substances Control
Division
1029 J Street,
Sacramento, CA 95814

Mr. Lachlan McClenahan
Site Mitigation Section
Toxic Substances Control
Division
714/744 P Street
Sacramento, CA 95814

Mr. Richard Ross
Office of Enforcement
Toxic Substances Control
Division
1029 J Street
Sacramento, CA 95814

Lt. Mike Moore
U.S. Coast Guard
Marine Safety Office
Coast Guard Island, Bldg. 14
Alameda, CA 94501

MONBAD.002979

MCO 0089446

BEFORE THE CALIFORNIA
DEPARTMENT OF HEALTH SERVICES

In the matter of:

Port of Oakland
Embarcadero Cove,

a Hazardous Waste Site.

Docket No. [HSA 87/88-CG2RA]

REMEDIAL ACTION ORDER

Health & Safety Code,
Sections 25355.5, 205,
and 206

To: The Port Of Oakland, Mr. Walter A. Albernathy, Director;
Monsanto Company, R.J. Mahoney, Chairman and Chief Executive
Officer; Does 1-99.

I

INTRODUCTION

The California Department of Health Services ("Department") issues this Remedial Action Order to the above named Respondents pursuant to California Health and Safety Code Sections 25355.5, 205, and 206. The Department has determined that releases or threatened releases of hazardous substances have occurred at the above-named Site and that these releases or threatened releases constitute a public nuisance as defined in Civil Code Sections 3479 and 3480.

II

FINDINGS OF FACT

1. The Hazardous Waste Site ("Site"), which is the subject of this Remedial Action Order, is located at the intersection of Dennison and Embarcadero Streets, Oakland, Alameda County, California. A map of the Site is attached as Exhibit A.

MONBAD.002980

2. The Site has been owned and operated by the Port of
1 Oakland ("Port") from a date unknown, but at least from 1955 to
2 date. During its period of ownership, the Port has leased the
3 Site to numerous industrial concerns.

4 3. From on or about February 28, 1955 to March 31, 1965,
5 Wood Treating Chemical Company leased the Site from the Port.
6 From 1955 through 1963, Wood Treating Chemical Company occupied
7 the Site and blended and formulated a variety of pesticides,
8 herbicides, and wood preservatives on the Site.

9 4. From on or about May 1, 1963 to March 31, 1965, Wood
10 Treating Chemical Company subleased the Site to the Garrity
11 Company. The Garrity Company took over Wood Treating Chemical
12 Company's operations and, in addition, handled other pesticides
13 and herbicides. The Garrity Company leased the Site from the
14 Port from 1965 to 1970.

15 5. Wood Treating Chemical Company was bought by Monsanto
16 Company at a date unknown, but prior to October 31, 1964.

17 6. The Site has remained vacant since 1970. From 1970 to
18 1972, all buildings and facilities were demolished or removed
19 from the property.

20 7. In 1981 prior to the construction of a walkway through
21 the Site, the Port initiated an investigation into possible soil
22 contamination at the Site. Initial findings of pesticides in
23 soil were reported by the Port to the Department. The
24 Department subsequently required the Port to conduct further
25 investigations to determine the full extent of contamination at
26 the Site. Pesticide contamination of soil and groundwater and
27

MONBAD.002981

1 PCB contamination of groundwater have been detected in locations
2 indicated on Exhibit A and summarized in Exhibit B.

3 8. Environmental and Health Effects

4 a. Pentachlorophenol (PCP) has been found in
5 groundwater at levels as high as 110 parts per million (ppm) and
6 in soils up to 6500 ppm (see Exhibit B). PCP is a listed
7 hazardous material (#570B) in Section 66680, Title 22,
8 California Administrative Code (CAC). PCP is a substance which,
9 when contained in any waste at a concentration equal to or
10 exceeding its Soluble Threshold Limit Concentration (STLC) of
11 1.7 mg/l or its Total Threshold Limit Concentration (TTL) of 17
12 mg/kg, is a hazardous waste pursuant to Section 66699, Title 22,
13 CAC. PCP is a hazardous substance within the meaning of Health
14 and Safety Code Section 25316.

15 PCP is readily absorbed upon inhalation, dermal, and oral
16 exposure. It is a strong irritant of the eyes, skin, nose,
17 throat, and lungs. Repeated or prolonged exposure can result in
18 chloracne. Other symptoms of exposure include fever, rapid
19 breathing, shortness of breath, chest pain, headache, thirst,
20 nausea, and vomiting. PCP is a teratogen to test animals and,
21 therefore, a possible human teratogen.

22 The Environmental Protection Agency (EPA) has determined
23 that acute toxicity to saltwater aquatic life occurs at
24 concentrations as low as 0.053 ppm and chronic toxicity to
25 saltwater aquatic life at concentrations as low as 0.034 ppm.

26 Chlorinated dibenzodioxins (dioxins) and dibenzofurans
27 (furans) are common contaminants of PCP and have been found at

MONBAD.002982

1 the Site in soil and groundwater. The most highly toxic
2 2,3,7,8-isomers of dibenzodioxins and dibenzofurans have not
3 been found at the site.

4 Furans and dioxins are among the most toxic substances
5 known to man. They are strong teratogens and carcinogens in
6 experimental animals and, therefore, suspected as human
7 teratogens and carcinogens. They are lethal in low doses to
8 aquatic organisms, birds, and mammals. Acute and subacute
9 exposure can cause hepatic necrosis, thymic atrophy, hemorrhage
10 and chloracne.

11 c. Dichlorodiphenyltrichloroethane (DDT) and its
12 breakdown products have been found in surface soils at 387 ppm
13 and in groundwater totalling 2.79 ppm (sample taken 2-9-85 from
14 well 6). DDT is a listed hazardous material (#247) in Section
15 66680, Title 22, CAC. DDT is a substance which, when contained
16 in any waste at a concentration equal to or exceeding its listed
17 STLC of 0.25 mg/l or TTLC of 2.5 mg/kg, is a hazardous waste
18 pursuant to Section 66699, Title 22, CAC. DDT is a hazardous
19 substance within the meaning of Health and Safety Code Section
20 25316.

21 DDT has a high bioaccumulation potential because it is very
22 soluble in fats and lipids. It is readily absorbed from the
23 intestinal tract and may be absorbed in aerosols or dusts by the
24 lungs.

25 DDT is an experimental mutagen and carcinogen in animals
26 and, therefore, it is a suspected human carcinogen and mutagen.

27 MONBAD.002983

1 Acute doses can cause necrosis of the liver, tremors, and
2 convulsions. The EPA has set a maximum exposure limit of 0.13
3 ppb to protect saltwater aquatic life.

4 d. Aroclor 1260, a polychlorinated biphenyl (PCB),
5 has been found in a groundwater sample from Well 7 at 0.026 ppm.
6 PCBs are listed hazardous materials (#606) in Section 66680,
7 Title 22, CAC. PCBs are substances which, when contained in any
8 waste at a concentration equal to or exceeding their listed STLC
9 of 5 mg/l or their TTLC of 50 mg/kg, are hazardous wastes
10 pursuant to Section 66699, Title 22, CAC. PCBs are hazardous
11 substances within the meaning of Health and Safety Code Section
12 25316.

13 PCBs cause skin disorders such as chloracne, rashes, and
14 irritation. Exposure to PCBs may also result in upper
15 respiratory tract irritation, eye irritation, and asthmatic
16 bronchitis. PCBs are suspected human carcinogens.

17 PCBs resist degradation in the environment. They are lipid
18 soluble and tend to bioaccumulate. PCB exposure to wildlife has
19 resulted in reproductive disorders, growth changes, and
20 behavioral changes.

21 9. Possible routes of exposure to humans from
22 contaminants at the Site include direct contact with
23 contaminated soils and ingestion and inhalation of soil-borne
24 contamination.

25 Contaminants have migrated down through the soil to
26 groundwater. Groundwater contamination has migrated at low
27 levels to off-site wells W-12 and W-13. Contaminant migration

MONBAD.002984

1 in groundwater can be expected to continue further off-site.
2 There are 8 wells within a one-mile radius of the site used for
3 irrigation and industrial purposes.

4 Contaminants could migrate off-site via surface water
5 runoff to the San Francisco Bay. Contaminants in groundwater
6 could also be migrating off-site into the Bay via a culvert
7 which appears to intercept and divert groundwater at the south
8 end of the site. The culvert appears to intercept groundwater
9 because groundwater flows toward it, and not toward the Bay as
10 would normally be expected. Also, inland wells near the culvert
11 have a quicker tidal response than those not near the Bay.

12 The San Francisco Regional Water Quality Control Board
13 (SFRWQCB) has designated the following existing and potential
14 beneficial uses for the central San Francisco Bay: industrial
15 process and service supply, contact and non-contact water
16 recreation, commercial and sport fishing, wildlife habitat,
17 including rare and endangered species, and fish migration and
18 spawning habitat.

19 III

20 CONCLUSIONS OF LAW

21 1. The substances, as described above, found on-site, are
22 "hazardous substances" as defined by Health and Safety Code
23 Section 25316.

24 2. Respondents are responsible persons or parties as
25 defined by Health and Safety Code Section 25319, 25360, and
26 25385.1(g).

27 MONBAD.002985

3. This Order complies with the requirements of Health and Safety Code Section 25355.5(a)(1).

4. The past, present and potential migration of hazardous substances from the site into the soil and groundwater constitutes an actual or threatened "release" as defined in Health and Safety Code Section 25320.

5. Conditions at the Site constitute a nuisance which is injurious to health or offensive to the senses. This nuisance is one which affects at the same time an entire community or neighborhood, or any considerable number of persons.

IV

DETERMINATION

Based on the foregoing Findings of Facts and Conclusions of Law, the Department has determined that:

1. Respondents are responsible parties who are required to take the actions ordered below to protect the public health and safety and environment.

2. The remedial actions set forth in this Order are necessary to respond to releases or threatened releases of hazardous substances from the Site.

3. The actions set forth in this Order are necessary to enjoin and abate a nuisance dangerous to health. Respondents' failure to perform these actions will result in the Department commencing and maintaining all proper and necessary actions or proceedings to abate this public nuisance.

MONBAD.002986

ORDER

IT IS HEREBY ORDERED:

A. Remedial Investigation

1. Within 20 calendar days of the effective date of the Order, Respondents shall submit a written notice of their intent to comply with the terms of the Order.

2. Within 60 calendar days of the effective date of this Order, Respondents shall submit a remedial investigation (RI) workplan, to completely characterize releases or threatened releases of hazardous substances. The RI workplan shall comply with the National Contingency Plan (40 CFR part 300) and shall include at least the following elements:

a. Proposed schedule for implementation. The start work date for field work shall be within 30 calendar days of the date of approval of the RI workplan;

b. Description of proposed sampling methods, locations and chemical analyses to be performed. The workplan shall provide for gathering additional information where previous investigations have been incomplete in determining the full extent of contamination as identified in the Department's letter of April 13, 1987 (see Exhibit C). Provisions for sampling and analysis of groundwater on a quarterly basis and a sampling program for assessing potential impacts to San Francisco Bay shall be included in the workplan;

c. Description of quality assurance and quality control measures to be implemented for sampling and analyses;

MONBAD.002987

1 d. Provisions for determining groundwater flow
2 rates, flow directions and aquifer transmissivities for the "A"
3 and "B" aquifers, and for measuring groundwater levels on a
4 monthly basis;

5 e. Provisions for determining the influence of storm
6 drains and other man-made structures on groundwater flow,
7 including methods to determine whether contaminated groundwater
8 is being intercepted and drained to the San Francisco Bay by the
9 storm drain on Dennison Street.

10 f. Provisions for determining surface water runoff
11 patterns and the sampling and analysis of runoff water;

12 g. Provisions for air monitoring;

13 h. A site map indicating where hazardous materials
14 were stored, transported, handled, or used, with an overlay
15 indicating locations of previously installed and proposed
16 monitoring well and soil sampling locations;

17 i. A site history, including a list of hazardous
18 materials used on site, their estimated volumes and
19 concentrations, and descriptions of manufacturing processes
20 related to the hazardous materials;

21 j. A site health and safety plan for protection of
22 workers in accordance with 29 CFR Part 1910 and third parties
23 such as site visitors and the surrounding community.

24 k. A community relations plan for informing local
25 residents and responding to inquiries from concerned citizens in
26 general accordance with EPA's "Community Relations in Superfund:
27 A Handbook" (March 1986 draft);

MONBAD.002988

1 1. Provisions for evaluating the feasibility of
2 implementing interim remedial measures (IRMs) prior to the
3 development and implementation of a remedial action plan.

4 3. The Department may approve Respondents' RI workplan;
5 reject the RI workplan with the reasons for rejection; or
6 provide Respondents with an approved RI workplan developed by
7 the Department. Respondents shall implement the RI workplan
8 approved by the Department according to the approved schedule.
9 A RI workplan which has been rejected by the Department shall be
10 resubmitted with changes addressing the Department's reasons for
11 rejection, within 14 calendar days of such rejection.

12 4. Respondents shall submit to the Department a final
13 remedial investigation report according to the approved RI
14 workplan schedule documenting the investigation of the following
15 items related to the Site:

16 a. Introduction

- 17 1. Site Background Information
18 2. A Summary of Findings
19 3. Overview of Report

20 b. Site Features Investigation

- 21 1. Soils
22 2. Hydrogeology
23 3. Groundwater
24 4. Surface waters
25 5. Air

26 c. Public health and environmental concerns

- 27 1. Potential receptors
28 2. Public health impacts
29 3. Environmental impacts, including to the San
30 Francisco Bay

31 d. Status of community relations activities

32 B. Interim Remedial Measures

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1 Respondents shall undertake IRMs if, during the course
2 of remedial investigation activities, the Department determines
3 they are necessary to mitigate the release of hazardous
4 substances at or emanating from the Site. The Department may
5 require Respondents to submit an IRM workplan, including an
6 implementation schedule and may establish a schedule for
7 submittal of the IRM workplan.

8 C. Remedial Action Plan

9 1. Within 30 calendar days of the effective date of
10 approval of the RI report, Respondents shall submit a revised
11 draft feasibility study/remedial action plan (RAP) prepared in
12 accordance with the National Contingency Plan (40 CFR Part 300),
13 federal Environmental Protection Agency (EPA) guidance
14 documents, and Health and Safety Code Section 25356.1 and
15 Department guidance on RAP procedures. This plan shall include
16 a community relations program to inform local residents about
17 site activities and to respond to inquiries from concerned
18 citizens and organizations.

19 2. Within 30 calendar days of a public hearing held
20 pursuant to Health and Safety Code Section 25356.1, Respondents
21 shall finalize and submit to the Department the draft final RAP.
22 The final RAP must consider and include, whenever appropriate,
23 all written comments received.

24 3. Within 60 days after the Departmental approval of the
25 final RAP, Respondents shall submit to the Department a detailed
26 engineering design of the approved site mitigation alternative
27 and a schedule for implementing the construction phase.

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1 4. Upon Department approval of the engineering designs
2 and construction schedule, Respondents shall implement the
3 remedial actions in accordance with the approved schedule.

4 5. Respondents shall be responsible for all operation and
5 maintenance requirements to be developed as a part of the final
6 RAP.

7 D. Other Provisions

8 1. Monthly Summary Reports. Within 30 days of the
9 effective date of this Order and monthly thereafter, Respondents
10 shall submit a Monthly Summary Report on their progress toward
11 compliance with the provisions of this Order, including specific
12 actions taken in the previous calendar month and actions
13 proposed during the current calendar month. The Monthly Summary
14 Report shall be received by the Department by the 15th day of
15 each month.

16 2. Project Engineer/Geologist. The work performed
17 pursuant to this Order shall be under the direction and
18 supervision of a qualified professional engineer or a certified
19 geologist with expertise in hazardous waste site cleanup. The
20 name and address of the project engineer or geologist chosen by
21 Respondents shall be submitted to the Department within 45
22 calendar days of the effective date of this Order.

23 3. Exhibits. All Exhibits attached hereto are
24 incorporated herein by this reference.

25 4. Incorporation of Plans and Reports. All plans,
26 schedules, and reports submitted by Respondents pursuant to this
27

MONBAD.002991

1 order that require Department approval are deemed to be
2 incorporated in this Order upon approval by the Department.

3 5. Submittals. All submittals required by this
4 Order shall be addressed to:

5 Dwight R. Hoenig, Chief
6 North Coast California Section
7 Toxic Substances Control Division

8 By Mail:

9 2151 Berkeley Way, Annex 7
10 Berkeley, California 94704

11 By Courier:

12 5850 Shellmound Avenue, Suite 100
13 Emeryville, California 94608

14 All approvals and decisions of the Department made
15 regarding such submittals and notifications shall be
16 communicated to Respondents by the Section Chief or his designee
17 in writing. No informal advice, guidance, suggestions or
18 comments by the Department regarding reports, plans
19 specifications, schedules or any other writing submitted by
20 Respondents shall be construed to relieve Respondents of their
21 obligation to obtain such formal approvals as may be required
22 herein.

23 Copies of all submittals shall be sent simultaneously to:

24 Donald Dalke
25 San Francisco Regional Water
26 Quality Control Board
27 1111 Jackson Street, 6th Floor
Oakland, California 94607

Rafat Shahid
Alameda County Health Department
470 27th Street, Room 325
Oakland, CA 94612

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1 6. Time Periods. Unless otherwise specified, time
2 periods begin from the effective date of this Order and are
3 based on calendar days.

4 7. Modifications. Either the Department or
5 Respondents may request modification, termination or revision of
6 this Order or any portion of this Order or any program or plan
7 submitted pursuant to this Order at any time. This Order and
8 any applicable program, plan, or schedule may be modified,
9 terminated or revised by mutual agreement at any time. The
10 Department reserves the right to unilaterally modify this Order.
11 Any modification made pursuant to this section shall be
12 effective upon issuance and deemed incorporated in this Order.

13 8. Compliance with Applicable Laws. Respondents shall
14 carry out this Order in compliance with all applicable local,
15 state, and federal requirements, including requirements to
16 obtain permits and to assure worker safety.

17 9. Endangerment During Implementation. In the event that
18 the Chief of the Regional Section of the Toxic Substances
19 Control Division of the Department determines that any
20 activities or circumstances are creating an imminent or
21 substantial endangerment to the health and welfare of people on
22 the site or in the surrounding area or to the environment, the
23 Regional Section Chief may order Respondents to stop further
24 implementation of this Order for such period of time as needed
25 to abate the endangerment. Any deadline contained in this Order
26 which is affected by a stop work order under this section shall
27 be extended for the term of such stop work order.

MONBAD.002993

10. Department Review and Approval. The Department shall
1 review any document which Respondents are required to submit for
2 Departmental approval pursuant to this Order. The Department
3 shall notify Respondents in writing of its approval or
4 disapproval of said document. In the event the Department
5 determines that such a document is not satisfactory and cannot
6 be approved, the Department shall submit to Respondents its
7 review and evaluation of said document, setting forth the
8 reasons for its disapproval and any recommended changes. Unless
9 otherwise specified, within thirty calendar days of receipt of
10 said review and evaluation, Respondents shall submit to the
11 Department for approval a revised document addressing the
12 Department's comments.

13 11. Sampling, Access, and Data/Document Availability.
14 Respondents shall permit the Department or its authorized
15 representatives to inspect and copy all sampling and monitoring
16 data in any way pertaining to work undertaken pursuant to this
17 Order. Respondents shall allow duplicate samples to be taken by
18 the Department and/or its authorized representatives, of any
19 samples collected by Respondents pursuant to the implementation
20 of this Order.

21 The Department and/or its authorized representatives have
22 the authority to enter and freely move about all property at the
23 Facility at all reasonable times for the purposes of, inter
24 alia: inspecting records, operating logs, and contracts related
25 to the Facility; reviewing the progress of Respondents in
26 carrying out the terms of this Order; conducting such tests as

27 MONBAD.002994

1 the Department may deem necessary; and verifying the data
2 submitted to the Department by Respondents. All parties with
3 access to the Facility pursuant to this paragraph shall comply
4 with all approved health and safety plans.

5 12. Government Liabilities. The State of California shall
6 not be liable for any injuries or damages to persons or property
7 resulting from acts or omissions by the Respondents, its
8 employees, agents or contractors in carrying out activities
9 pursuant to this Order, nor shall the State of California be
10 held as a party to any contract entered into by the Respondents
11 or its agents in carrying out activities pursuant to this Order.

12 13. Additional Enforcement Actions. By issuance of this
13 Order, the Department does not waive any further enforcement
14 actions.

15 14. Parties Bound. This Order applies and is binding upon
16 the Respondents, their successors and assigns.

17 15. Severability. If any provision or section of this
18 Order is found invalid by a Court, all other sections shall
19 remain valid and in effect.

20 IV

21 PENALTIES FOR NON-COMPLIANCE

22 Failure or refusal of Respondents to comply with this Order
23 may make Respondents liable for any costs incurred and payable
24 from the Hazardous Substance Account or the Hazardous Substance
25 Cleanup Fund for any remedial action at the Site pursuant to
26 Health and Safety Code Section 25360. These costs include
27

MONBAD.002995

1 administrative costs in an amount equal to 10 percent of the
2 reasonable costs actually incurred, or five hundred dollars
3 (\$500), whichever is greater.

4
5 EFFECTIVE DATE

6 This Order is issued and is effective upon signing on the
7 date noted below. All times for performance or response
8 activities shall be calculated from the effective date.

9 It is so Ordered this 8 day of July, 1987.
10 1987.

11 Dwight R. Hoenig
12 Dwight R. Hoenig, Chief
13 North Coast California Section
14 Toxic Substances Control Division
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MONBAD.002996

Embarcadero

W13

MONBAD.002997

MCO 0089464

Dennison

North Shore

Central Shore

South Shore

LEGEND

- monitoring well location
- boring location
- near-shore sediment ("Bay mud") grab sample location

SCALE
50 FT

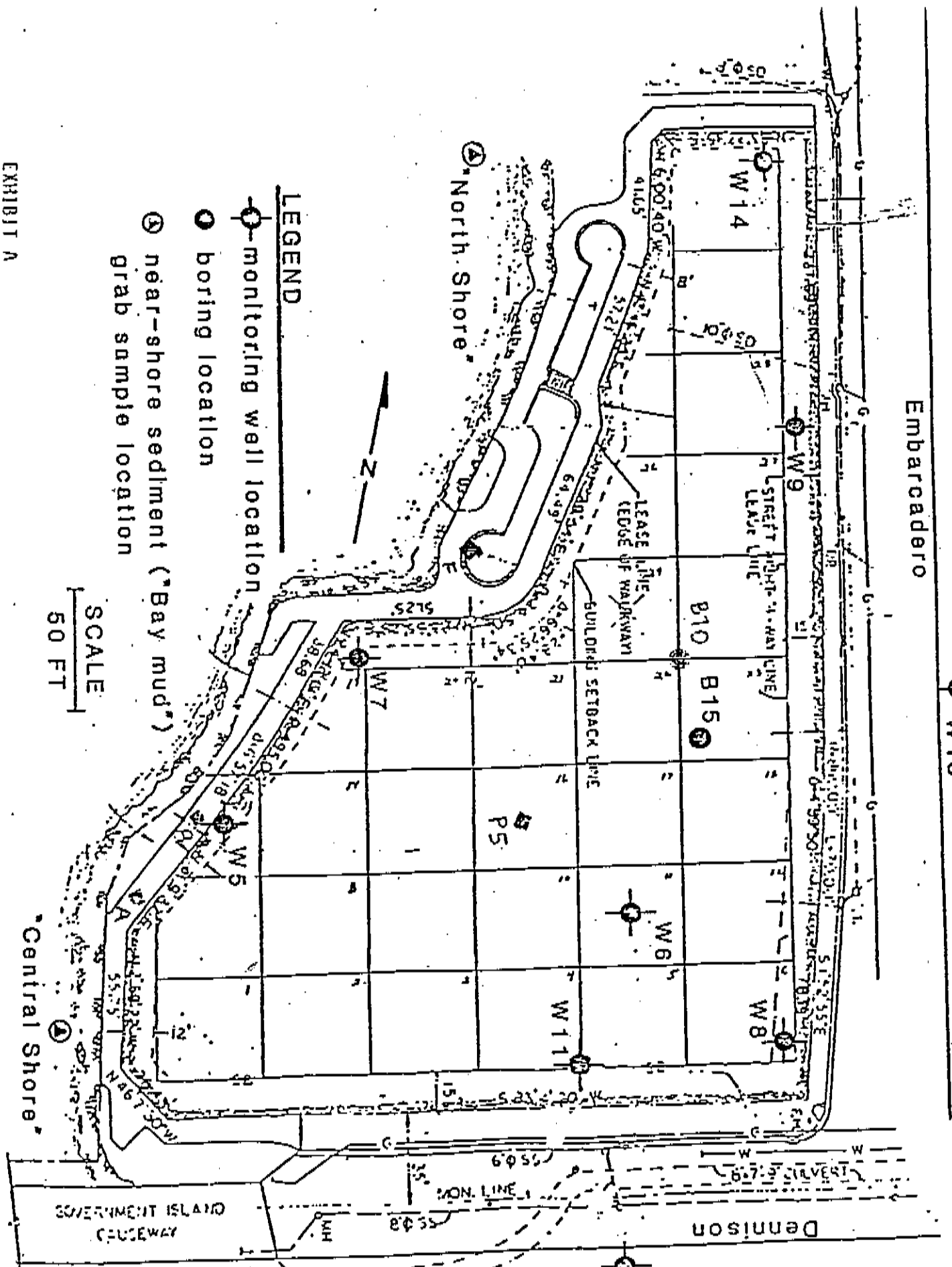


EXHIBIT B: Levels of contaminants in soil and groundwater at the Port of Oakland Embarcadero Cove Site. Groundwater results for PCP and DDT are from samples taken October, 1985. Dioxin and furan groundwater results are for samples taken April, 1986. Soil results are for samples taken at various periods of investigation.

CONCENTRATION (ppm)									
<u>GROUNDWATER</u>	<u>PCP</u>	<u>DDT*</u>	<u>PCB**</u>	<u>FURANS</u>			<u>DIOXINS</u>		
				<u>penta</u>	<u>hexa</u>	<u>hepta</u>	<u>penta</u>	<u>hexa</u>	<u>hepta</u>
WELL 5	39	0.045	ND	ND	ND	ND	ND	ND	ND
WELL 6	110	0.24	ND	ND	0.281	2.66	ND	0.0985	2.00
WELL 7	0.081	ND	0.026	—	—	—	—	—	—
WELL 8	0.012	ND	ND	—	—	—	—	—	—
WELL 9	45	0.92	ND	ND	0.950	10.7	ND	0.430	9.77
WELL 11	0.018	ND	ND	—	—	—	—	—	—
WELL 12	0.013	ND	ND	—	—	—	—	—	—
WELL 13	0.012	ND	ND	—	—	—	—	—	—
WELL 14	0.012	ND	ND	—	—	—	—	—	—

CONCENTRATION (ppm)								
SOIL	PCP	DDT	penta	FURANS		penta	DIOXINS	
				hexa	hepta		hexa	hepta
Site F, surface	ND	387						
P5 0.5-1.5'	320	ND						
1.5-2.25'	1,900	ND	—					
Site A, surface	ND	134						
Site B, surface	45	49						
B-10								
4-5'	1,600	ND						
7.5-8.5'	6,500	ND						
12-13'	160	ND						
15-16'	410	ND						
B-15								
2.25-3.0'	210	—	ND	0.0159	0.662	ND	0.006	0.0908
3.0-4.0'	190	—						
5-6'	1,200	—	0.0025	0.096	0.661	ND	0.0270	0.830
6-7.5'	430	—	ND	0.0233	0.0716	ND	0.0024	0.109

* Concentrations are for the sum of the DDT, DDD and DDE isomers.

** Aroclor 1260

ND = not detected.

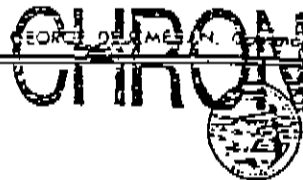
MONBAD.002998

MCO 0089465

DEPARTMENT OF HEALTH SERVICES

2151 BERKELEY WAY
BERKELEY, CA 94704

EXHIBIT C



April 13, 1987

CERTIFIED MAIL

Mr. Keith Quan
Port of Oakland
P.O. Box 2064
Oakland, CA 94607

Dear Mr. Quan:

PORT OF OAKLAND, EMBARCADERO COVE

Thank you for the submittal of the Feasibility Study (FS) for the subject site.

In general, the report was well written and well organized, and it clearly evaluated various options for mitigating the site. However, we do have comments regarding some of the conclusions in it. In addition, we have identified several areas where additional information regarding site hydrogeologic conditions and the extent of contamination at the site is needed before we can evaluate and concur with report's findings. These comments are included in an attachment to this letter.

In the near future, we will be issuing a remedial action order requiring that the work outlined in the attachment be completed. That order will probably be issued to companies associated with site operations, as well as to the Port.

In the meantime, if you have any questions or comments or would like to meet to discuss the FS or the status of the site, please feel free to contact Denise Kato at (415) 540-3401.

Sincerely,

Jerome R. Marcotte
Senior Waste Management Engineer
North Coast California Section
Toxic Substances Control Division

MONBAD.002999

MCD 0089466

Certified # P 589 065 711

Attachment

cc: S. Nelson, ERM-West
R. Ekedehl, Sonoma Pacific
R. Shahid, Alameda County Public Health
D. Dalke, SFRWQCB

JRM:dk:dk

MONBAD.003000

MCO 0089467

ATTACHMENT

section 6-4 of the Feasibility Study (FS) indicated additional study of the influence of utility trenches was needed to "define and optimize the post-closure monitoring program." We concur with this opinion. In addition, other areas requiring the development of additional information regarding site hydrogeologic conditions and the extent of contamination include:

1. Determination of groundwater flow rates. While migration of contaminants at this site may be slow, it has occurred as evidenced by the low concentrations in perimeter wells. Thus, it is essential to assess the potential for continuing migration of groundwater contaminants from the site.

2. Determination of aquifer transmissivities and possible interconnections between aquifers and wells. The FS indicates that there is a low overall permeability and reports that it is unlikely that there is continuity between wells. This conclusion is based on information from previous investigations, including conductivities of water from the wells, responses to tidal influences, and the nature of the artificial deposition of surface soils.

We disagree that the dissimilar responses to tides in the various wells indicates that the wells are not connected. The key fact is that all wells tested but 5W, which is probably perched, showed a definite response to tidal fluctuations, indicating connections to San Francisco Bay. Variations in well response are to be expected based on proximities to the Bay and to the drainage channel. Coupled with the fact that a definite flow gradient has been identified for the shallow aquifer, there seems to be a definite interconnection between the wells and the Bay. Field testing (well pump tests) needs to be conducted to support any conclusions regarding aquifer characteristics.

3. Verification of the flow direction and determination of the flow rate of the deeper aquifer through installation and testing of deeper wells. The flow direction for the deeper aquifer cannot be determined with the two existing deep wells.

4. We do not feel there are enough wells to adequately define the extent of groundwater contamination in the following areas:

- o Well W9 was highly contaminated with PCP and floating oil. A deeper well is needed to define the vertical extent of groundwater contamination in this "hot spot." The extent of floating oil in this area is also undefined; this data that must be developed to ensure that any alternative selected adequately contains the contamination in this area.

- o A shallow well between wells 9 and 6 should be installed to determine if there is one continuous plume or two discrete plumes in this area.

MONBAD.003001

April 13, 1987

- o Additional monitoring wells in the southwest central portion of the site are also necessary to monitor movement of contamination from "hot spot" locations of W9 and W6.

- o More shallow wells are needed on the south side of the site (but north of the culvert) to monitor for the migration of contaminants off the site.

5. The report concludes that PCB contamination in the deep well 7W is from an off-site source. Given the location of the well on the extreme west side of the site and the lack of an immediately identifiable source to the north, this seems unlikely. Without a deep upgradient well to monitor groundwater flowing onto the site, it cannot be concluded that the PCB contamination is from an off-site source. We suggest the installation of such an upgradient well and also recommend that the investigation of the possibility that work in the dock area that used to exist along the shoreline of the site involved use of PCBs.

6. Determination of the full vertical extent of soil contamination. In explanation of this comment, much of the sampling was done to a depth of only 3 feet; in those locations, it was often found that levels of contamination increased at increased depths. For some of the other deeper borings, samples were lost and never analyzed; however, at the bottom of some of the borings, odors were noted or oil was observed. These facts lead to the conclusion that contamination extends to undetermined depths in several locations. Again, it is important to have this information in order to determine the adequacy of the proposed mitigation measure(s) for the site.

7. Determination of the full lateral extent of contamination. We recently obtained historic aerial photos of the site which reveal a set of large, above-ground tanks which were previously unidentified. The aerial photos also clearly indicate locations of the other storage tanks and the former drum cleaning building. It would be extremely useful to transpose these structures onto an existing or modified base map which shows sampling locations to ensure that all the highly likely sources of contamination have been or will be investigated. We would be happy to loan our photos to the Port or the Port's consultant for this purpose.

Also, the FS indicates that releases of hazardous substances at the site were observed and regulated by other agencies in the 1950s. This historical information (dates, the types and estimated quantities of chemicals released and release locations) should be summarized to determine whether we have adequately investigated the site. This information will also be important in making the preliminary allocation of responsibility in the draft Remedial Action Plan.

MONBAD.003002

MCO 0089469

April 13, 1987

8. Drum cleaning operations at the site probably involved the use of chlorinated solvents. While lab results from Brown and Caldwell in 1985 indicate that a 602 analysis was run, no detection limits for chlorinated volatile organic compounds were reported, leading us to conclude that chlorinated organics have not been analyzed for at the site. Soil and groundwater samples from the drum cleaning area should be taken and analyzed for chlorinated solvents.

9. Alternative II.c of the FS proposes installation of a cap and sheet wall. It cannot be expected that these barriers will be completely effective in keeping the enclosed area dry, so some provisions for hydraulic control must be included before this alternative is accepted as being feasible.

10. No field data for the site has been generated since 1985. All wells should be resampled and groundwater levels should be monitored on a quarterly basis.

11. Historical extremes for groundwater levels and tides in the area should be determined and evaluated for potential impacts on contaminant migration and design of remedial measures.

MONBAD.003003

MCO 0089470

Monsanto

LAW DEPARTMENT

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 894-1000

September 3, 1987

Mr. Dwight R. Hoenig
Chief, North Coast California Section
Toxic Substances Control Division
Department of Health Services
2151 Berkeley Way, Annex 7
Berkeley, CA 94705

Re: Proposed Determination of Non-Compliance
with Remedial Action Order No. HSA87/88-002RA

Dear Mr. Hoenig:

We are now responding to your August 6, 1987 Notice of Proposed Determination of Non-Compliance with Remedial Action Order No. HSA87/88-002RA. The purpose of this response is twofold: (1) response to the information request previously submitted to Monsanto in this matter and (2) a request for modification of Remedial Action Order No. HSA87/88-002RA.

In responding at this time, Monsanto must express its surprise at the adversarial attitude and approach adopted by the Department of Health Services (DOHS) in its August 6, 1987 correspondence. In light of the state's prolonged history of involvement at the site, it is ironic that the state is unwilling to grant any request for an extension of time to properly respond to the Remedial Action Order.

As detailed in the Port of Oakland's letter dated August 20, 1987 on this subject, the Port of Oakland has apparently experienced a number of frustrations in working with the DOHS since 1981 to resolve the problems perceived to exist at this location. Yet the DOHS demanded an immediate response from Monsanto in its letter dated July 9, 1987 which was not even postmarked until four days later, July 13, 1987. Since Monsanto did not even receive this correspondence until July 16, 1987, Monsanto then had only eight working days to satisfy DOHS's demand.

Under these circumstances, it was and is unreasonable to demand a response to an information request on operations which occurred 20-30 years ago and on an entity, Wood Treating Chemical Company

MONBAD.003004

MCO 0002126

(WTCC), which has not existed for over 10 years. It was and is unreasonable to demand a response to a remedial action order on a cleanup which has been in progress for six years when the DOHS' own files contain thousands of pages of technical reports and conclusions to be reviewed. A request for an extension of time was and is not unreasonable to discuss this matter with the state and the Port of Oakland, obtain the voluminous documentation and other information, review six years of reports and studies, and search for documentation from 30 years ago. (It should be noted that any earlier communications on this site were general in nature and at no time specified with the necessary details either the DOHS position or Monsanto's involvement with the site.)

However, past experience in hazardous waste matters of this nature indicate that an adversarial attitude is counter-productive and will not aid in an effective approach towards remedying any hazards which exist at the Port of Oakland site. Accordingly, we wish to proceed in this matter with an appropriate concern for the environment and applicable state law. In this regard we must note that we disagree with the DOHS' assertion of authority under applicable law as stated in its correspondence on this matter. Without waiving such objections, we do wish at this time to provide the following information concerning Monsanto's involvement at this site.

1963 Monsanto purchased 100% of the shares of WTCC stock from R. M. Morriss, Sr., R. M. Morriss, Jr. and J. R. Morriss on February 19, 1961 and WTCC became a subsidiary of Monsanto. On December 1, 1971 the assets of WTCC were purchased by Koppers Company which assumed all liabilities arising out Koppers operation, control or use of any and all of those assets after the purchase. WTCC was then dissolved in 1974.

On February 25, 1955 WTCC leased the site in question from the Port of Oakland for 10 years. A copy of the lease is attached. On July 1, 1963, shortly after Monsanto had purchased WTCC, the site was subleased to the Garrity Company. It is Monsanto's understanding that when the Wood Treating Chemical Company lease expired in 1965, Garrity Company leased the site directly from the Port of Oakland until July, 1970 when the site became non-operational.

Accordingly, at no time did WTCC or Monsanto ever own this site. During the period of time which WTCC was present on this site, it was used primarily to produce formulations of technical pentachlorophenol. It also served as a warehouse location and shipping point for WTCC formulations produced elsewhere and for chemicals produced for other manufacturers. Pentachlorophenol formulations generally were mixtures of technical pentachlorophenol, organic solvents, water and dyes. Enclosed is an inventory of materials at the Oakland site at the time that Monsanto purchased WTCC. Monsanto has no records indicating what other formulations may

have been produced or handled or the volumes of such formulations. Many of the products in the inventory at this location were being held there for resale as WTCC did a substantial business buying and reselling the chemicals of many manufacturers.

As for individuals with knowledge of WTCC operations in relation to this site, Rueben Morris Jr., **FX-6 Personal Privacy** was an owner and the general manager. In addition, Joseph Montgomery was WTCC's western regional manager beginning in approximately June of 1962. His address and phone number are **FX-6 Personal Privacy**.

FX-6 Personal Privacy

In support of its request for modification of Remedial Action Order HSA87/88-002RA, Monsanto wishes to point out that the Remedial Action Order as presently written is not supported by substantial evidence and is arbitrary and capricious as to its conclusions and requirements on Monsanto.

In particular, the remedial action is not supported by evidence that Monsanto is responsible for the release of any hazardous substances at the site in question. Neither the order nor any of the state records which were made available for Monsanto's review specify evidence that the materials which presently require cleanup originated from WTCC operations at the site. The Remedial Action Order fails to even set forth the legal basis upon which DOHS can conclude that an entity is a potentially responsible party.

Furthermore, when WTCC dissolved in 1974, any of the liabilities as a result of its prior operations were extinguished. Enclosed are the documents which establish that Monsanto only assumed the known liabilities of WTCC. All other liabilities, including those related to this site, were extinguished with the dissolution of WTCC. In addition, given the state's involvement at the site over the last six years, the California Code of Civil Procedure, Section 338.9, may preclude any action against Monsanto under Chapter 6.5 of Division 20 of the Health and Safety Code, such as this Remedial Action Order. Accordingly, there is neither a factual nor legal basis to hold Monsanto responsible for this matter.

Even if Monsanto through WTCC was a potentially responsible party at this site, additional potentially responsible parties are also indicated by the state's own records. These records, including aerial photos from as early as 1948, show substantial contamination at the site. Even DOHS in its objections to the Port of Oakland's feasibility studies dated April 13, 1987 cite the need for additional historical data to determine whether it has "adequately investigated the site." The DOHS goes on to observe that such data will be important for a preliminary allocation of responsibility. However, DOHS records already indicate that

Texaco and Ventura Oil are known to have occupied the site for at least thirty years prior to WTCC's lease. This would have included the 1948 time period when the aerial photos disclose an area of contamination.

As for the period subsequent to WTCC's operations at the site, Garrity Company handled much of the same material as that used by Wood Treating Chemical Company. The Garrity Company is apparently now dissolved. However, such dissolution apparently occurred in 1981 at approximately the same time that DOHS became aware of the problem at the Port of Oakland. Yet no action was taken against Garrity Company prior to such dissolution. Furthermore, there is no indication in the DOHS files that any enforcement action has been considered in order to trigger possible recovery from any insurance which Garrity Company may have possessed.

In addition to the foregoing legal and factual difficulties with the proposed remedial action order, the manner in which this order was issued and the DOHS's refusal to grant an extension of time to reply is arbitrary and capricious and not in substantial compliance with applicable law. Monsanto has not had a reasonable opportunity to either review the studies which have been done or to investigate the vague allegations which have been made against it.

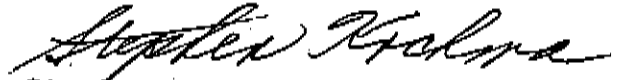
Accordingly, Monsanto requests that this order be withdrawn or suspended until such time as the state makes a showing of Monsanto's legal and factual liability in this matter and secondly, until the state has named as potentially responsible parties all those entities which carried out operations at the site or held an ownership interest in the site.

At a minimum the Remedial Action Order must be modified to require completion of the remedial investigation and feasibility study at the site without the subsequent commitment to actual site cleanup. To now require Monsanto's immediate commitment of the considerable resources required for actual cleanup would be arbitrary and capricious given this site's long and complex technical and procedural history. If Monsanto has an opportunity to address its other concerns, it could then participate in an appropriate manner in the completion of the remedial investigation and feasibility study while obtaining the necessary information which it needs to determine its proper role in any ultimate cleanup action.

We will be prepared to discuss the foregoing matters at the meeting presently scheduled for September 18, 1987. We request that any final action in relation to this remedial action order be stayed until we have had an opportunity to discuss these matters in a straightforward and face to face manner. This should enable all parties to more fully understand one another's

positions and to achieve a resolution which will bring the most significant benefit for the protection of the environment at this site. In the meanwhile, if you have any questions concerning our position in this matter, please contact me.

Very truly yours,



Stephen P. Krchma
Assistant Environmental Counsel

Enclosures
LAWENVspk48

cc: Gregory Tomlin w/encl.
Port of Oakland
bc: Anthony O. Garvin, Esq. w/encl.
Landels, Ripley & Diamond
Jerry McGuire, G4WM w/encl.
Stefanie Emery, E2NP w/encl.

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LEASE

THIS LEASE, made and entered into this 28th day of February, 1955, by and between the CITY OF OAKLAND, a municipal corporation, acting by and through its Board of Port Commissioners, hereinafter called the "Port" or "Lessor" and WOOD-TREATING CHEMICALS COMPANY, a corporation, and ASSOCIATED SALES & SUPPLY COMPANY, a corporation, hereinafter called "Lessee",

W I T N E S S E T H:

1. For the better promotion of commerce and navigation and the development of the Port of Oakland, and for and in consideration of the faithful performance by Lessee of the agreements, covenants, terms and conditions hereof and of the payments herein provided to be made by Lessee, the Port has leased and demised, and by these presents does lease and demise unto Lessee, and Lessee by these presents does lease, hire and take from the Port, the following described parcel of land situate in the City of Oakland, County of Alameda, State of California, to-wit:

Beginning at the monument at the intersection of 19th Avenue and Dennison Street in the City of Oakland, County of Alameda, State of California, and running thence North $6^{\circ}32'45''$ West a distance of 35.00 feet along 19th Avenue; thence South $83^{\circ}04'20''$ West to the west line of 19th Avenue a distance of 36.50 feet to the true point of beginning of the parcel herein described; thence South $83^{\circ}04'20''$ West a distance of 226.02 feet; thence South $6^{\circ}32'45''$ East a distance of 25.00 feet; thence South $83^{\circ}04'20''$ West a distance of 37.05 feet; thence North $4^{\circ}01'50''$ West a distance of 41.72 feet; thence South $86^{\circ}09'10''$ West a distance of 16.83 feet; thence North $3^{\circ}50'50''$ West a distance of 137.54 feet; thence North $84^{\circ}56'10''$ East a distance of 40.88 feet; thence North $17^{\circ}17'40''$ East a distance of 57.65 feet; thence North $82^{\circ}33'10''$ East a distance of 52.52 feet; thence North $6^{\circ}22'26''$ East a distance of 16.93 feet; thence North $83^{\circ}04'20''$ East a distance of 151.04 feet; thence South $6^{\circ}32'45''$ East a distance of 223.50 feet to the point of beginning. Containing 1.311 acres;

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together with the buildings, appurtenances and facilities located thereon as particularly described in Exhibit A attached hereto and by this reference made a part hereof.

2. The term of this lease shall be ten (10) years commencing upon the first day of the calendar month next succeeding sixty (60) days after the date of final passage of the ordinance awarding this lease.

3. In accordance with the bid filed with the Port, Lessee shall pay as rental each month of the term of this lease, in advance, without previous demand, on or before the first day of each and every calendar month during said term, in lawful money of the United States of America, the sum of SIX HUNDRED DOLLARS (\$600.00).

The awarding of this lease by the Port shall constitute acknowledgment of receipt by the Port from the Lessee of a sum equal to three (3) times the monthly rental, which sum shall be applied as follows, to-wit: It shall be forfeited to and retained by the Port as liquidated damages in the event that Lessee fails, neglects or refuses to execute this lease as requested after the award thereof to the Lessee upon its bid; and from and after the timely execution of this lease and the commencement of its term as herein provided, said sum shall be applied toward the payment of the rental first accruing under this lease until it has been exhausted.

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4. The demised premises shall be used by the Lessee for the processing and preparation of wood preservatives and agricultural chemicals, and for purposes generally consistent with and incidental thereto. Lessee shall not use or permit the demised premises to be used in whole or in part during the term of this lease for any purpose other than as hereinabove set forth, except with the prior written consent of the Port evidenced by resolution of its Board of Port Commissioners, nor for any use in violation of any present or future laws, ordinances, general rules or regulations at any time applicable thereto of any public or governmental authority, including the City of Oakland or its Board of Port Commissioners, relating to sanitation or the public health, safety or welfare, or navigation and use of the harbor, and Lessee hereby expressly agrees at all times during the term of this lease, at its own cost, to maintain and operate the demised premises in a clean, wholesome and sanitary condition, and in compliance with any and all present and future laws, ordinances and general rules or regulations of any public or governmental authority now or at any time during the term of this agreement in force relating to sanitation or public health, safety or welfare, and Lessee shall at all times faithfully obey and comply with all laws, rules and regulations applicable thereto adopted by Federal, State, local or other governmental bodies or departments or officers thereof.

5. Lessee agrees to pay for all labor performed and materials furnished in any construction and in any repairs, additions, alterations or improvements thereafter made by it on said premises, and to keep its possessory interest therein free and clear of all liens. All such improvements and construction shall upon completion become the property of the Port. Thereafter no alterations shall be made without consent of the Port.

6. Lessee at its own expense shall and hereby agrees to carry insurance on any improvements now located on the premises or later placed on the demised premises in an amount of not less than ninety per cent (90%) of their insurable value, naming the Port as the insured. In the event such improvements are destroyed or more than fifty per cent (50%) damaged by fire, earthquake or other major calamity, the proceeds of such insurance shall be used for rebuilding; provided, however, that should the Port determine that the property cannot be used for the purposes herein mentioned, that portion of the proceeds which is allocable to improvements placed upon the demised premises by the Lessee after the date of this lease shall be divided between the Port and the Lessee prorated over a period equal to the term of this lease on a straight line basis. The balance of the proceeds shall remain the property of the Port. The determination made by the Port that the property can or cannot be so used shall be final and conclusive and binding upon the parties to this lease.

A certificate evidencing such insurance coverage shall be filed with the Secretary of the Board of Port Commissioners and said certificate shall provide that such insurance coverage will not be cancelled or reduced without at least ten (10) days prior written notice to the Secretary of said Board. At least ten (10) days prior to the expiration of any such policy, a certificate showing that such insurance coverage has been renewed shall be filed with the Secretary of said Board.

7. Lessee hereby acknowledges that said premises are in good and tenantable condition. Lessee further covenants and agrees at its own cost and expense, during the term of this lease, to keep and maintain the demised premises, including all buildings, structures, facilities and improvements thereon, whenever the same may have been placed thereon, in good order and repair and in tenantable condition, injury thereto or destruction thereof by

fire, earthquake, act of God or other cause beyond Lessee's control excepted; and Lessee hereby expressly waives the right to make such repairs at the expense of the Port and the benefit of the provisions of Sections 1941 and 1942 of the Civil Code of California relating thereto. The Port shall not be obligated to make any repairs, alterations, additions, improvements or betterments to said premises during the term of this lease.

8. Lessee shall have and is hereby given the right to install pipelines from the demised premises to the adjacent docks * of the Port, but Lessee shall first secure the approval of the Port as to design and location.

9. Lessee agrees to pay all lawful taxes, assessments, or charges which at any time may be levied by the State, County, City, or any tax or assessment levying body upon any interest in this lease or any possessory right which Lessee may have in or to the premises covered hereby by reason of its use or occupancy thereof or otherwise, as well as all taxes, assessments and charges on goods, merchandise, fixtures, appliances, equipment and property owned by it in or about said premises. Lessee also shall pay for all labor done or materials furnished in the repair, replacement, development or improvement of the demised premises by Lessee and shall keep said premises and Lessee's possessory interest therein free and clear of any lien or encumbrance of any kind whatsoever created by Lessee's act or omission.

10. The Lessee shall pay the cost of all necessary light, heat, water or other utility services required by it in connection with its use of said premises.

11. Lessee faithfully shall comply with all the laws, rules and regulations adopted by the Board of Port Commissioners, * or other competent public authority, for the government of the Port Area, or for the protection of life, health or property generally.

12. No signs or placards, excepting only signs or placards pertaining to or advertising Lessee's name and business shall be inscribed, painted or placed upon said demised premises, or on the ways adjacent thereto, without written consent of the Port first had and obtained.

13. Lessor may carry, at its own cost, such insurance upon the demised premises for its own protection as it may deem advisable. It is an express condition of this lease that Lessor shall be free from all liabilities and claims for damages and/or suits for or by reason of any injury or injuries, to any person or persons or property of any kind whatsoever, whether the person or property of Lessee, its agents or employees, or third persons, from any cause or causes whatsoever while in or upon said premises or any part thereof during the term of this agreement or occasioned by any occupancy, or use, of said premises or any activity carried on by Lessee in connection therewith, and Lessee hereby covenants and agrees to indemnify and to save harmless the Lessor from all liabilities, charges, expenses (including counsel fees) and costs on account of or by reason of any such injury or injuries, liabilities, claims, suits or losses however occurring or damages growing out of same.

Lessee shall maintain in force during the term of this lease public liability insurance in the sum of One Hundred Thousand Dollars (\$100,000.00) for injury or death to any one person, and in the sum of Two Hundred Thousand Dollars (\$200,000.00) for injury or death to more than one person, and in the sum of Twenty-five Thousand Dollars (\$25,000.00) for damages to property; and said insurance shall be issued to cover Lessor (as well as Lessee) in respect to the indemnification set forth hereinabove in this Paragraph 13.

A certificate evidencing such insurance coverage shall be filed with the Secretary of the Board of Port Commissioners and

said certificate shall provide that such insurance coverage will not be cancelled or reduced without at least ten (10) days' prior written notice to the Secretary of said Board. At least ten (10) days prior to the expiration of any such policy, a certificate showing that such insurance coverage has been renewed shall be filed with the Secretary of said Board.

14. The Lessee shall occupy and use said premises in the conduct of the business of the kind indicated by the purposes specified in Paragraph 4 hereof, and during the term of this lease shall route for shipment by water from, and ship through the marine terminal facilities operated by the City of Oakland, all goods which shall be owned or the shipment of which shall be controlled by the Lessee, and which shall be shipped by it by water in the conduct of its said business during said term (whether produced or packed at said terminal building or elsewhere) and which can be shipped through said terminal on the vessels by which it shall be necessary or convenient for it to ship the same; provided, however, that the agreements in this paragraph contained are and shall be subject to the following additional conditions, to-wit: (a) that such vessels shall call at one of such terminals for receipt of such goods, or shall announce it shall accept freight thereat, during the period it shall be necessary or convenient for the Lessee to ship the same, and such vessels and their itineraries shall conform to the usual and customary requirements of the business of the Lessee; (b) that such goods can be so shipped on such vessels through said terminal to destination at a cost to the Lessee or the consignee of such goods (including the cost of the freight from point of origin to said terminal and the tolls and other regularly established charges incident to the handling of goods through and the shipment of said goods from such terminal) not in excess of the cost of shipping such goods

to the Lessee or the consignee through any other established general cargo pier, dock or terminal in general use on San Francisco Bay or its tributaries to destination (including the cost of freight from point of origin to, and the tolls and other regularly established charges incident to the handling of goods, through, and the shipment of said goods from, such other established general cargo pier, dock or terminal on San Francisco Bay or its tributaries); and (c) that during the term of this lease adequate marine terminals shall at all times be maintained and operated by the Lessor, or under its direction, in an efficient manner as public terminals for the accommodation of shipping by rail and water, including the handling of general cargo and package freight. Notwithstanding anything to the contrary herein contained, the agreements of the Lessee in this paragraph shall not apply to goods which the purchaser or consignee thereof shall require to be shipped by a vessel or vessels which shall not receive cargo at any such terminals.

In the event that any of said conditions (a), (b) or (c) shall not exist and for that reason the Lessee at any time during the term hereof shall not ship through or over any such terminal any particular tonnage which would otherwise have been available for shipment through or over the same, but shall ship the same through or over some other terminal, the Lessee shall, with reasonable promptness and not later than thirty (30) days after any such shipment, render to the Lessor a statement setting forth the amount of tonnage so shipped, a general description of the goods shipped, the name of the vessel by which the same were shipped, the date of sailing thereof, the name of the port or country of destination, and the reason for not shipping said goods over or through any such terminal.

It is understood and agreed that a prime consideration for this lease moving to the Lessee is the maintenance and operation by Lessor of Oakland Inner Harbor as a major shipping terminal in connection with waterborne commerce. Therefore, it

is agreed that in the event an outgoing vessel convenient to Lessee's shipping needs is assigned to some terminal other than the Oakland Inner Harbor, the Port agrees to assume the cost of cartage of cargo of Lessee from the transit sheds of Oakland Inner Harbor to any other terminal operated by the Port from which such vessel is to depart. Such cartage shall be performed by the Port directly or through such agents as it may choose. It is understood, however, that this obligation of the Port shall not obtain as to cargo which is shipped by Lessee from points outside the described premises to Oakland Inner Harbor transit sheds, and for lading on a particular vessel, in any case where such goods could have been shipped for lading at any other municipally operated terminal in the City of Oakland, without additional cost to Lessee.

15. Lessee agrees to pay all dockage, wharfage, demurrage, service charges and other port charges incurred by it at any wharf, dock or terminal facility directly operated by the Port.

16. Lessee shall not, either directly or indirectly, assign, hypothecate, encumber or transfer this lease or any interest therein, or sublet the whole or any part of the demised premises, or license the use of same in whole or in part without written consent of Lessor evidenced by resolution of said Lessor, which consent, however, shall not be withheld unreasonably. Neither this lease nor any interest therein shall be assignable or transferable in proceedings in attachment, garnishment or execution against Lessee, or in voluntary or involuntary proceedings in bankruptcy or insolvency or receivership.

taken by or Against Lessee or by any process of law, and that possession of the whole or any part of the demised premises shall not be divested from Lessee in such proceedings or by any process of law, without written consent of Lessor, and any breach of the provisions of this paragraph shall cause this lease to terminate immediately at option of Lessor.

17. This lease is made upon the condition that if the rents or other sums which Lessee herein agrees to pay, or any part thereof, shall be unpaid on the date on which the same shall become due, or if default be made in any of the terms, agreements, conditions or covenants herein contained on the part of Lessee, or should Lessee abandon and cease to use the premises for a period of sixty (60) days at any one time except when prevented by fire, earthquake, wars, strikes, or other calamity beyond its control, then and in such event, at the option of the Port as evidenced by resolution of the Board of Port Commissioners this lease shall become forfeited, and the Port may exercise all rights of entry and reentry upon the demised premises. Lessee shall not be considered in default as to any provisions of this lease where such default is the result of, or pursuant to, any process, order or decree of any court or regulatory body. No default shall be declared by the Port as to any breach which may be cured or obviated by Lessee until the expiration of thirty (30) days after written notice by the Port to Lessee of such default and if, during such thirty (30) day period, such default shall have been cured or obviated, provided, that only five (5) days' written notice shall be required in the case of a default in the payment of rent or other sums herein provided to be made by Lessee.

18. In any case in which provision is made herein for the termination of this agreement by the Port or in the case of abandonment or vacating of the premises by Lessee, the Port in lieu of declaring a forfeiture may enter upon the premises. To such end Lessee hereby irrevocably appoints the Port its agent to

remove any and all persons or property on said premises and place any such property in storage for the account of and at the expense of Lessee. In such case the Port may relet the premises upon such terms as to it may seem proper, and if a sufficient sum shall not be realized thereby, after paying expenses of such reletting, to satisfy the rent and other sums herein agreed to be paid by Lessee, Lessee agrees to pay any such deficiency. Lessee further agrees to save the Port harmless from any loss or damage or claim arising out of the action of the Port in pursuance of this paragraph.

19. No waiver by either party at any time of the terms, conditions or covenants of this lease shall be deemed as a waiver at any time thereafter of the same or of any other term, condition or covenant herein contained, nor of the strict and prompt performance thereof. No delay, failure or omission of the Port to re-enter the demised premises or to exercise any right, power or privilege, or option, arising from any default, nor any subsequent acceptance of rent then or thereafter accrued shall impair any such right, power, privilege or option or be construed as a waiver of such default or a relinquishment of any right, or acquiescence therein. No notice to the Lessee shall be required to restore or revive time as of the essence after the waiver by the Port of any default. No option, right, power, remedy or privilege of the Port shall be construed as being exhausted by the exercise thereof in one or more instances. The rights, powers, options and remedies given to the Port by this agreement shall be deemed cumulative.

20. Should Lessee hold over after the expiration of this agreement, such holding over shall be deemed to be a tenancy from month to month, at a rental to be fixed and determined by the Port, payable monthly in advance and without previous demand, but otherwise upon the same terms and conditions as are herein provided.

21. If, during the term of this lease, said warehouse building shall be damaged or destroyed by fire, earthquake or other casualty to an extent in excess of fifty per cent (50%) of the then value thereof, the Lessor is hereby granted the privilege, upon giving thirty (30) days' written notice to the Lessee (such notice to be given within thirty (30) days after such damage or destruction) to cancel and annul this lease; provided, however, that if in such case the Lessor shall not so elect to cancel and annul this lease and like notice to that effect shall likewise then be given to Lessee, it hereby agrees with due diligence to restore the demised premises to a good and tenantable condition and fit for Lessee's uses. If the damage or destruction is less than fifty per cent (50%) Lessor shall with due diligence restore the demised premises to a good and tenantable condition and fit for Lessee's uses.

22. In case of destruction, partial destruction, or damage by fire, the Lessee shall not be liable for the full monthly rental herein specified during the time that said building is thus rendered untenable and unfit for Lessee's occupancy due to such damage or destruction, but in such case the Lessee shall pay a pro rata amount only of the monthly rental herein reserved, for such part of the herein demised premises as the Lessee can use and occupy economically, and shall from the date of restoration of said premises pay the full monthly rental herein reserved. If at the time the Lessor shall have elected to cancel this lease as in Paragraph 21 hereof provided, the Lessee shall not be or be deemed to be in default as to any terms, covenants, conditions or agreements in this lease contained by the Lessee to be kept, performed, discharged or paid, the Lessor shall restore to the Lessee any unearned portion of the current

monthly installment of rent paid in advance by the Lessee and shall return to Lessee for cancellation all policies of insurance, the premiums on which were paid by Lessee, who shall then be entitled thereto.

23. This lease and the premises hereby demised shall at all times during the term of the lease be subject to the limitations, conditions, restrictions and reservations contained in and prescribed by the act of the Legislature of the State of California, entitled "An act granting certain tidelands and submerged lands of the State of California to the City of Oakland and regulating the management, use and control thereof", approved May 1, 1911 (Stats. 1911, Chap. 654), and the Charter of the said City.

24. Lessee hereby waives any claim against the City of Oakland, the Board of Port Commissioners, its officers, agents or employees, for damage or loss caused by any suit or proceedings directly or indirectly attacking the validity of this lease, or any part thereof, or by any judgment or award in any suit or proceeding declaring this lease null, void, or voidable, or delaying the same, or any part thereof, from being carried out.

25. Notwithstanding any of the provisions of this agreement, the parties may hereafter by mutual consent agree to modifications thereof or additions thereto in writing, provided such amendments do not substantially alter or change the terms hereof and are not forbidden by law. The Port shall have the right to grant reasonable extensions of time to Lessee for any purpose or for the performance of any obligation of Lessee hereunder.

26. The Port hereby reserves the right to enter upon the premises at any reasonable time to inspect the same.

27. It is expressly agreed and understood that if the Lessee is not a resident of this State, or is an association or partnership without a member or partner resident of this

State, or is a foreign corporation, then in any such event the Lessee shall file with the Port a designation of a natural person residing in the County of Alameda, State of California, giving his name, residence and business address, as his or its agent for the purpose of service of process in any court action between him or it and the Port arising out of or based upon this lease, and the delivery to such agent of a copy of any process in any such action shall constitute valid service upon such Lessee; and it is further expressly agreed, covenanted and stipulated that if for any reason service of such process upon such agent is not possible, then in such event Lessee may be personally served with such process out of this State, and that such service shall constitute valid service upon such Lessee; and it is further expressly agreed that Lessee is amenable to the process so served, submits to the jurisdiction of the court so acquired, and waives any and all objection and protest thereto.

28. No goods, merchandise or material shall be kept, stored or sold in said demised premises which are in any way explosive or hazardous; and no offensive or dangerous trade, business or occupation shall be carried on therein or thereon, and nothing shall be done on said premises, other than as is provided for in Paragraph 4 of this lease, which will increase the rate of or suspend the insurance upon said premises or other structures of Lessor; and no machinery or apparatus shall be used or operated on said leased premises which will in any way injure said premises or adjacent buildings, provided, however, that nothing in this paragraph contained shall preclude Lessee from bringing, keeping or using on or about said premises

and building such materials, supplies, equipment and machinery as are necessary or customary in carrying on its said business, or from carrying on its business in all respects as is generally usual.

29. All the terms, covenants and conditions of this lease shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. That the provisions of this paragraph shall not be deemed as a waiver of any of the conditions against assignment or subletting hereinbefore set forth.

30. Time shall be of the essence.

31. The term "Board of Port Commissioners" as used in this lease shall mean the department of the City of Oakland currently operating under such name and as currently constituted, or any successor thereof. The term "Port Manager" shall mean the executive officer of such Board, or its successor.

32. Any notice permitted or required to be served upon Lessee may be served upon it at 1896 Hennison Street, Oakland, California; provided, however, that if Lessee shall give notice in writing to the Port of any change in said address, then and in such event such notice shall be given to Lessee at such substituted address.

33. The Lessee shall pay the cost of publication of the ordinance awarding this lease and of the notice of intention to make it.

34. This agreement is executed in quintuplicate, each copy of which shall be deemed an original.

IN WITNESS WHEREOF, the parties hereto have caused

these presents to be executed the day and year first above written.

CITY OF OAKLAND, a municipal corporation, acting by and through its Board of Port Commissioners,

By

[Signature]
President

Attest

[Signature]
Secretary

WOOD-TREATING CHEMICALS COMPANY, a corporation,

By

[Signature]
R.M. MORRIS, JR. President

Attest

[Signature]
PAUL F. PLUMMER, Secretary

ASSOCIATED PALS & SUPPLY COMPANY, a corporation,

By

[Signature]
R.M. MORRIS, SR. President

Attest

[Signature]
PAUL F. PLUMMER, Secretary

Approved as to form and
legality this 20th day
of March, 1955

[Signature]
Port Attorney

Port Ordinance No. 927

STATE OF MISSOURI)
) ss.
CITY OF ST. LOUIS)

On this 17th day of March, 1955, before me, BESSIE I. GORSON, a Notary Public in and for the City of St. Louis, State of Missouri, residing therein, duly commissioned and sworn, personally appeared E. H. KENNIS, JR., known to me to be the President, and PAUL F. FLETCHER, known to me to be the Secretary of ~~WOODWARD CHEMICALS COMPANY~~, a corporation, and personally appeared E. H. KENNIS, SR., known to me to be the President, and PAUL F. FLETCHER, known to me to be the Secretary of ASSOCIATED PAINTS & SUPPLY COMPANY, a corporation, the corporations that executed the within instrument and the respective officers who executed the within instrument on behalf of the respective corporations therein named, and acknowledged to me that such corporations executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal, the day and year in this certificate first above written.

Bessie I. Gorson
NOTARY PUBLIC in and for said City
of St. Louis, State of Missouri
Commission Expires June 16, 1956

MONBAD.003025

MCO 0002147

INVENTORY OF PROPERTY

Bldg. Number J-308	Garage
Bldg. Number J-309	Truck cleaning building
Bldg. Number J-310	Storage building
Bldg. Number J-311	Office and warehouse

7 - 20,000 gal. welded steel tanks
2 - 36,000 gal. riveted steel surrounded by 7' high
concrete firewall
5 - 4,000 gal. bolted steel tanks on elevated platform
2 - 10,000 gal. bolted steel tanks on elevated platform

Office Building:

Warehouse and Drum Filling Room

MCO 0002148

- 1 ea. Locker, metal 3' x 2' x 6'
- 4 " " 12" x 18" x 5'
- 6 " " 15" x 15" x 6'-6"
- 1 " Heater, gas Custom Aire.
- 1 " Water heater 30 gal Comet
- 1 " Shower, portable, metal with glass door. Weisway
- 5 " Fire extinguishers Foamite
- 1 " " Pyrene
- 1 " Viscosimeter - American Instrument Co. No. 147-22
Serial #18786 115 volts 900 watts
- 1 " Flash tester, open cup w/electric heater
Precision Scientific Co. #1600
- 1 " Sheet metal hood over gas jets and flash tester

Basement of Warehouse

- 1 ea. Pump pump with $\frac{1}{2}$ HP motor
- 1 " Air compressor, Baker Model T55x3 with tank and
5 HP motor
- 1 " Rotary pump blower w/ 2 HP Motor

Drum Cleaning Building

- 1 ea. Drum paint remover equip. complete w/ $\frac{1}{2}$ HP
Sterling Motor
- 1 " Drum washing equip. complete w/ 1 HP Westinghouse
Motor
- 1 " Drum dedenting equip. w/ compressed air connections
- 1 " Air heater Sturtevant Co. fan, gas heat. 5 HP motor
3 phase
- 1 " Boiler, gas fired 25 hp Scotch Marine type
- 1 " Boiler feed pump w/ $\frac{1}{3}$ HP motor
- 1 " Pump, "Skimmer" rotary, Blackmer w/ $\frac{1}{2}$ HP
Century motor
- 1 " Drum roller conveyor unit 60' lin ft. 2" rollers
2" o.c.
- 1 " Paint pot, 1 gal., for spray painting
- 1 " " 2 gal.
- 2 " " 5 gal.
- 1 " Paint spray booth complete with barrel trunnion
and $\frac{1}{2}$ HP motor and vent fan w/ 2 HP motor
- 2 " Fire extinguishers - Foamite
- 1 " " Pyrene
- 1 " Ladder, wood 7 ft.
- 1 " Drum light with cord

Garage and Shop

- 1 ea. Lift truck, Yale and Towne, capacity: 3500 lbs.
Model G-940 Serial #40494
- 1 " Hand trucks, barrel, rubber tires
- 1 " Drill press w/ motor $\frac{3}{4}$ HP 1 phase
- 2 " Bench vices Frontice Vise Co. Models #94 & #55
- 1 " Grinder and wire brush w/ 1 HP motor
- 4 " Fire extinguishers - Foamite
- 2 " ladders, wood; one 8'; one 6'
- 1 " Drum conveyor 12' long, 30" wide, 2" rollers
- 2 " " 8' long
- 1 " " 6' long
- 1 " Work bench, wood with shelves and drawers
- Misc. wood shelving

Outside Area:

- 1 ea. Overhead drum conveyor from Drum Cleaning Bldg. to Warehouse complete with motor
- 4 " Pumps, Yale Tri-Rotor w/ 5 HP motors on tank transfer pad
- 1 " Gyro Barrel Tumble w/ 3 HP motor 3 phase Syncogear
- 1 " 500 gal. caustic tank with steam coils, pumps, motor and sump pump all in 12' x 7' x 6' conc. pit.
- 1 " Conc. grease trap with oil recovery tank
- 1 " 40 gal. Foamite fire extinguisher on wheels
- 2 " Foamite fire extinguishers, wall type
- 4 " Steel barrel racks made from 2" x 2" x 3/16" L's 5 tiers high 8' x 15' x 9' high
- 1 " Drum elevator w/ motor 1 HP approx. (corroded and not in use)
- 1 " Pump, gasoline and 7.5 HP motor below elevated tanks
- 180 lin ft of track
- Pipes and valves necessary for operation of plant

WTCCO - OAKLAND, CALIFORNIA

<u>FINISHED PRODUCT</u>	<u>UNIT COST</u>		<u>INVENTORY VALUE</u>	<u>INVENTORY QUANTITY</u>
Captan 50W	.55	Lb.	105.60	192 Lbs.
A-2 Aldrin	2.28	Gal.	274.05	120 Gals.
40W Chlordane	.375	Lb.	393.75	1050 Lbs.
5% Dieldrin Gran.	.15	Lb.	7.50	50 Lbs.
1.6 Endrin	5.56	Gal.	66.72	12 Gals.
DDT 50W	.15	Lb.	633.60	4224 Lbs.
Kelthane E. C.	6.75	Gal.	94.50	14 Gals.
Lindane L 1	4.45	Gal.	806.34	181 Gals.
Lindane L 166	4.36	Gal.	357.83	82 Gals.
M-57 Malathion	6.648	Gal.	159.56	24 Gals.
Malathion 25W	.3735	Lb.	112.50	300 Lbs.
Methylene Chloride	.165	Lb.	72.60	440 Lbs.
Chlorobenzilate 25%	7.05	Gal.	70.50	10 Gals.
Colorseal	.31	Gal.	124.00	400 Gals.
Diap	.40	Lb.	96.00	240 Lbs.
Penta Stain	.893	Gal.	1620.79	1814 Gals.
PY-11 Pyrenone	7.83	Gal.	313.20	40 Gals.
.9 Pyrethrum Powder	.52	Lb.	52.00	100 Lbs.
T-6 Toxaphene	2.054	Gal.	291.76	142 Gals.

MONBAD.003029

MCO 0002151

WTCCO - OAKLAND, CALIFORNIA

<u>FINISHED PRODUCTS</u>	<u>UNIT COST</u>		<u>INVENTORY VALUE</u>	<u>INVENTORY QUANTITY</u>	
Woodfix 310 RTU	.385	Gal.	\$ 275.28	715	Gals.
Woodfix 310 Conc.	.963	Gal.	245.75	255	Gals.
Woodset 319 Resin	.2928	Gal.	193.25	660	Gals.
Dormant Fungicide	.10	Lb.	35.20	352	Lbs.
Whitmire Bombs	18.00	Case	<u>393.00</u>	21-5/6	Cases
			6895.28		

MONBAD.003030

MCO 0002152

WTCCO - OAKLAND, CALIFORNIA

<u>RAW MATERIALS</u>	<u>UNIT COST</u>	<u>INVENTORY VALUE</u>	<u>INVENTORY QUANTITY</u>
Alpco Wax	.1267 Lb.	63.35	500 Lbs.
Amsco 225 Solvent	.165 Gal.	394.02	2388 Gals.
Panasol AN2K	.225 Gal.	585.00	2600 Gals.
Asphalt 88B	.24 Gal.	25.20	105 Gals.
Casein	.36 Lb.	124.20	345 Lbs.
Polybor Chlorate	.156 Lb.	405.60	2600 Lbs.
Cobalt Napthenate	.55 Lb.	134.20	244 Lbs.
Di Sodium Phosphate	.1075 Lb.	3.76	35 Lbs.
Green Dye	1.43 Lb.	393.25	275 Lbs.
Yellow Dye	.98 Lb.	196.00	205 Lbs.
Purple Dye	.50 Lb.	1.75	3.5 Lbs.
Red Dye	.19 Lb.	.48	2.5 Lbs.
Victoria Green Dye	3.60 Lb.	162.00	45 Lbs.
Felton #7	1.15 Lb.	177.10	154 Lbs.
Hexylene Glycol	.185 Lb.	244.20	1320 Lbs.
Ional	1.14 Lb.	77.52	68 Lbs.
Joint Sealer	.04 Lb.	120.00	3000 Lbs.
Latex Rubber Base	.54 Lb.	636.66	1179 Lbs.
Lindane	2.215 Lb.	1373.30	620 Lbs.
Linseed Oil	.192 Lb.	640.70	3337 Lbs.

MONBAD.003031

MCO 0002153

WTCCO - OAKLAND, CALIFORNIA

<u>RAW MATERIALS</u>	<u>UNIT COST</u>	<u>INVENTORY VALUE</u>	<u>INVENTORY QUANTITY</u>
Morpholene	.7675 Lb.	\$ 184.20	240 Lbs.
Oxide, Dark Red	.205 Lb.	44.28	216 Lbs.
PEG 500	.2421 Lb.	1256.74	5191 Lbs.
PAD Resin	.09 Lb.	130.50	1450 Lbs.
PolyPale Resin	.1302 Lb.	221.34	1700 Lbs.
Sodium Azide	1.40 Lb.	7672.00	5480 Lbs.
Sodium Chlorate	.18 Lb.	18.00	100 Lbs.
Socal Solvent 25	.406 Gal.	237.51	585 Gals.
Tergitol XD	.26 Lb.	88.92	342 Lbs.
Triton X161	.335 Lb.	142.37	425 Lbs.
Hercules Talc	.022 Lb.	947.10	43050 Lbs.
Sterox CD	.25 Lb.	44.00	176 Lbs.
2,4-D Acid	.335 Lb.	<u>1432.46</u>	4276 Lbs.
		18177.71	

MONBAD.003032

MCO 0002154

ADDITIONAL OAKLAND INVENTORY

	<u>UNIT COST</u>	<u>INVENTORY VALUE</u>	<u>INVENTORY QUANTITY</u>
Isoproponolamine	.50 Gal.	110.00	220 Gals.
D.D.T. 20%	.49 Gal.	27.00	55 Gals.
P E 40	1.86 Gal.	558.00	300 Gals.
Dieldrin 1.5#	3.01 Gal.	903.00	300 Gals.
Aldrin 4# E. C.	3.82 Gal.	1146.00	300 Gals.
WR 320 Concentrate	.16 Lb.	32.00	200 Lbs.
Alkyd Resin Sealer	.634 Gal.	26.00	41 Gals.
5# Malathion E. C.	5.60 Gal.	504.00	90 Gals.
D.D.T. 25%	.80 Gal.	196.00	245 Gals.
Xylene	.462 Gal.	101.00	220 Gals.
Dieldrin 1.5 - Quarts	.60 Qt.	108.00	180 Qts.
Checkpest C-20	1.10 Gal.	142.00	129 Gals.
Lindane I	1.31 Qt.	186.00	142 Qts.
Woodset RTU	.345 Gal.	95.00	275 Gals.
WR 313 Conc.	.129 Lb.	101.00	780 Lbs.
Timbertox 11 RTU	.239 Gal.	79.00	330 Gals.
		<u>4314.00</u>	

MONBAD.003033

MCO 0002155

ARTICLES OF DISSOLUTION BY
VOLUNTARY ACTION PURSUANT TO
UNANIMOUS CONSENT OF SHAREHOLDERS

Honorable James C. Kirkpatrick
Secretary of State
State of Missouri
Jefferson City, Missouri 65101

The undersigned corporation, for the purpose of dissolving the corporation, and pursuant to the provisions of The General and Business Corporation Law of Missouri, hereby executes the following Articles of Dissolution:

Article 1. The name of the corporation is WTC Company.

Article 2. The names and respective addresses, including street and number, of its officers are:

Chairman of Board	W. R. Corey 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
President	H. S. Bergen 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Vice President & Treasurer	A. J. Koenig 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Secretary	W. W. Withers 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Assistant Secretary	T. H. Bottini 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Assistant Treasurer	J. R. Matlock 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Assistant Treasurer & Controller	W. S. Slevin 800 N. Lindbergh Blvd. St. Louis, Mo. 63166

Article 3. The names and respective addresses, including street and number, of its directors are:

H. S. Bergen	800 N. Lindbergh Blvd., St. Louis, Mo.
W. R. Corey	800 N. Lindbergh Blvd., St. Louis, Mo.
A. J. Koenig	800 N. Lindbergh Blvd., St. Louis, Mo.
W. J. Slevin	800 N. Lindbergh Blvd., St. Louis, Mo.

Article 4. The agreement signed by all of the shareholders of record of the corporation, consenting to its dissolution, is as follows:

RESOLVED, that this shareholder hereby approves the liquidation and dissolution of WTC Company and adopts the following Plan of Complete Liquidation and Dissolution of WTC Company:

MONBAD.003034

MCO 0002156

PLAN OF COMPLETE LIQUIDATION AND
DISSOLUTION OF WTC COMPANY

This plan of complete liquidation and dissolution of WTC Company is for the purpose of effecting a liquidation and dissolution of WTC in accordance with the requirements of the Internal Revenue Code and applicable state law.

In exchange for all of the outstanding common stock of WTC Company ("WTC"), WTC will distribute all of its property and assets, including a note receivable from P&H Manufacturing Company, to its sole stockholder, Monsanto Company, ("Monsanto") by December 31, 1974. The officers of WTC shall distribute all of the remaining property of WTC in complete cancellation or redemption of all its issued and outstanding stock not later than December 31, 1974. The officers and directors of WTC shall execute the plan, and shall have power to adopt all resolutions, execute all documents, file all papers, and take all necessary actions they deem necessary or desirable for complete liquidation and dissolution of WTC. The stockholder additionally will assume the known debts, obligations and liabilities of WTC.

There are no known suits pending against the corporation in any court. There is one claim made by James Spears against WTC Company which alleges violation of a City of St. Louis ordinance on equal employment/anti-discrimination. Monsanto will assume any and all liability of WTC in this claim as may be adjudged by appropriate authorities.

The liquidation of WTC will be effected by or before December 31, 1974; and

BE IT FURTHER RESOLVED, that any officer of WTC Company be, and each of them hereby is, authorized and empowered, in the name and on behalf of WTC Company to execute and file with the appropriate officials all instruments, certificates and other documents necessary to legally effectuate the liquidation and dissolution of this corporation in accordance with the terms of the aforementioned Plan.

Article 5. The purchased shares of the corporation outstanding entitled to vote at the time of adoption of said resolution authorizing the voluntary dissolution of the corporation was Two Thousand Four Hundred Eighty-Nine (2489) shares.

Article 6. The number of shares entitled to vote for said resolution authorizing the voluntary dissolution of the corporation was Two Thousand Four Hundred Eighty-Nine (2489) shares; and the number of shares voting against said resolution authorizing

the voluntary dissolution of the corporation was none.

IN WITNESS WHEREOF, the undersigned corporation has caused this statement to be executed in its name by its President, and its corporate seal to be hereto affixed, attested by its Secretary, this 22nd day of November, 1974.

WTC COMPANY

By H. S. Bergen
H. S. Bergen
President

ATTEST:
W. W. Withers
W. W. Withers
Secretary

STATE OF MISSOURI }
COUNTY OF ST. LOUIS } ss.

I, Virginia Schaefer, a notary public, do hereby certify that on this 22nd day of November, 1974, personally appeared before me, H. S. Bergen, who, being by me first duly sworn declared that he is the President of WTC Company, that he signed the foregoing document as President of the corporation, and that the statements therein contained are true.

Virginia Schaefer
Notary Public

My commission expires:

August 29, 1975

MCO 0002158

MONBAD.003036



State of Missouri . . . Office of Secretary of State

JAMES C. KIRKPATRICK, Secretary of State

CORPORATION DIVISION

ARTICLES OF LIQUIDATION

(To be filed in duplicate by an attorney)

HONORABLE JAMES C. KIRKPATRICK
SECRETARY OF STATE
STATE OF MISSOURI
JEFFERSON CITY, MO. 65101

The undersigned corporation, for the purpose of dissolving, and pursuant to the provisions of the General and Business Corporation Law of Missouri relating to the dissolution of corporations, hereby executes the following articles of liquidation:

- Article 1. The name of corporation is WTC COMPANY
- Article 2. On the 25th day of November 19 74 the corporation filed Articles of Dissolution with the Secretary of State.
- Article 3. All debts, obligations and liabilities of the corporation have been paid and discharged, adequate provision has been made therefor.
- Article 4. All the remaining property and assets of the corporation have been distributed among corporation's shareholders, in accordance with their respective rights and interests.
- Article 5. There are no suits pending against the corporation in any court, or adequate provision has been made for the satisfaction of any judgment, order, or decree which may be entered against it by pending suit.

IN WITNESS WHEREOF, the undersigned corporation has caused these articles to be executed in its name

by President and its corporate seal to be hereto affixed, attested by its

President or Vice President

Secretary this 27th day of November

Secretary or Assistant Secretary

74

WTC COMPANY

Name of Corporation

(CORPORATE SEAL)

By H. S. Bergen
In Presence of
H. S. Bergen

WITNESSES:

W. W. Withers
In Presence of

STATE OF Missouri
COUNTY OF St. Louis

I, Patricia J. Alsop, a Notary Public,

hereby certify that on the 27th day of November, A. D. 19 74,

H. S. Bergen

(President or Vice President)

personally appeared before me and being first duly sworn by me acknowledged that he signed the foregoing document and the contents therein set forth and declared that the statements therein contained are true.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year before written.

(NOTARIAL SEAL)

My Commission expires MY COMMISSION EXPIRES AUG. 2, 1978

Notary Public

MONBAD.003037



STATE of MISSOURI

JAMES C. KIRKPATRICK, Secretary of State

Corporation Division

Certificate of Dissolution

REAS, Articles of Dissolution and Articles of Liquidation of
WTC COMPANY

Corporation organized and existing under The General and Business Corporation Law, have been
ved, found to conform to law, and filed.

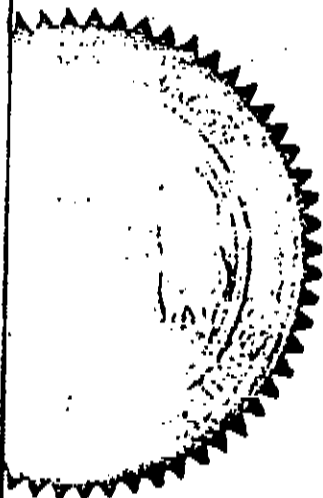
THEREFORE, I, JAMES C. KIRKPATRICK, Secretary of State of the State of Missouri, issue
Certificate of Dissolution of the aforementioned corporation, certifying that the existence of said
poration has this date ceased, and that the copy of the Certificate of Dissolution above set forth,
ll, true, and complete, and that to the first issued certified copy thereof I have attached a copy
e Articles of Liquidation referred to therein.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
the GREAT SEAL of the State of Missouri, at the City of Jefferson,
this 9th day of December, 1974.

James C. Kirkpatrick
Secretary of State

MCO 0002160

MONBAD.003038





STATE of MISSOURI

JAMES C. KIRKPATRICK, Secretary of State

Corporation Division

Certificate of Dissolution

REAS, Articles of Dissolution and Articles of Liquidation of

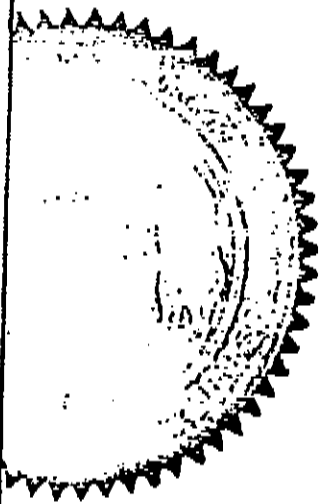
WTC COMPANY

corporation organized and existing under The General and Business Corporation Law, have been
ved, found to conform to law, and filed.

THEREFORE, I, JAMES C. KIRKPATRICK, Secretary of State of the State of Missouri, issue
Certificate of Dissolution of the aforementioned corporation, certifying that the existence of said
oration has this date ceased, and that the copy of the Certificate of Dissolution above set forth,
ll, true, and complete, and that to the first issued certified copy thereof I have attached a copy
e Articles of Liquidation referred to therein.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
the GREAT SEAL of the State of Missouri, at the City of Jefferson,
this 9th day of December, 1974.

James C. Kirkpatrick
Secretary of State



MONBAD.003039

MCO 0002161

ARTICLES OF DISSOLUTION BY
VOLUNTARY ACTION PURSUANT TO
UNANIMOUS CONSENT OF SHAREHOLDERS

Honorable James C. Kirkpatrick
Secretary of State
State of Missouri
Jefferson City, Missouri 65101

The undersigned corporation, for the purpose of dissolving the corporation, and pursuant to the provisions of The General and Business Corporation Law of Missouri, hereby executes the following Articles of Dissolution:

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Secretary	W. W. Withers 800 N. Lindbergh Blvd. St. Louis, Mo. 63166
Assistant Secretary	T. H. Bottini 800 N. Lindbergh Blvd. St. Louis, Mo. 63166

PLAN OF COMPLETE LIQUIDATION AND
DISSOLUTION OF WTC COMPANY

This plan of complete liquidation and dissolution of WTC Company is for the purpose of effecting a liquidation and dissolution of WTC in accordance with the requirements of the Internal Revenue Code and applicable state law.

In exchange for all of the outstanding common stock of WTC Company ("WTC"), WTC will distribute all of its property and assets, including a note receivable from P&H Manufacturing Company, to its sole stockholder, Monsanto Company, ("Monsanto") by December 31, 1974. The officers of WTC shall distribute all of the remaining property of WTC in complete cancellation or redemption of all its issued and outstanding stock not later than December 31, 1974. The officers and directors of WTC shall execute the plan, and shall have power to adopt all resolutions, execute all documents, file all papers, and take all necessary actions they deem necessary or desirable for complete liquidation and dissolution of WTC. The stockholder additionally will assume the known debts, obligations and liabilities of WTC.

There are no known suits pending against the corporation in any court. There is one claim made by James Spears against WTC Company which alleges violation of a

the voluntary dissolution of the corporation was none.

IN WITNESS WHEREOF, the undersigned corporation has caused this statement to be executed in its name by its President, and its corporate seal to be hereto affixed, attested by its Secretary, this 22nd day of November, 1974.

WTC COMPANY

By *H. S. Bergen* *Pres*
H. S. Bergen
President

ATTEST:
W. W. Withers *Sec*
W. W. Withers
Secretary

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) ss.

I, *Virginia Schaefer*, a notary public, do hereby certify that on this 22nd day of November, 1974, personally appeared before me, H. S. Bergen, who, being by me first duly sworn declared that he is the President of WTC Company, that he signed the foregoing document as President of the corporation, and that the statements therein contained are true.

Virginia Schaefer



State of Missouri . . . Office of Secretary of State

JAMES C. KIRKPATRICK, Secretary of State

CORPORATION DIVISION

ARTICLES OF LIQUIDATION

(To be filed in duplicate by an attorney)

HONORABLE JAMES C. KIRKPATRICK
SECRETARY OF STATE
STATE OF MISSOURI
JEFFERSON CITY, MO. 65101

The undersigned corporation, for the purpose of dissolving, and pursuant to the provisions of the General and Business Corporation Law of Missouri relating to the dissolution of corporations, hereby executes the following articles of liquidation:

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Article 5. There are no suits pending against the corporation in any court, or adequate provision has been made for the satisfaction of any judgment, order, or decree which may be entered against it by pending suit.

IN WITNESS WHEREOF, the undersigned corporation has caused these articles to be executed in its name

by President and its corporate seal to be hereto affixed, attested by its

President or Vice President

Secretary this 27th day of November

Secretary or Assistant Secretary

74

WTC COMPANY

Name of Corporation

1 2. The Site has been owned and operated by the Port of
2 Oakland ("Port") from a date unknown, but at least from 1955 to
3 date. During its period of ownership, the Port has leased the
4 Site to numerous industrial concerns.

5 3. From on or about February 28, 1955 to March 31, 1965,
6 Wood Treating Chemical Company leased the Site from the Port.
7 From 1955 through 1963, Wood Treating Chemical Company occupied
8 the Site and blended and formulated a variety of pesticides,
9 herbicides, and wood preservatives on the Site.

10 4. From on or about May 1, 1963 to March 31, 1965, Wood
11 Treating Chemical Company subleased the Site to the Garrity
12 Company. The Garrity Company took over Wood Treating Chemical
13 Company's operations and, in addition, handled other pesticides
14 and herbicides. The Garrity Company leased the Site from the
15 Port from 1965 to 1970.

16 5. Wood Treating Chemical Company was bought by Monsanto
17 Company at a date unknown, but prior to October 31, 1964.

18 6. The Site has remained vacant since 1970. From 1970 to
19 1972, all buildings and facilities were demolished or removed
20 from the property.

21 7. In 1981 prior to the construction of a walkway through
22 the Site, the Port initiated an investigation into possible soil
23 contamination at the Site. Initial findings of pesticides in
24 soil were reported by the Port to the Department. The
25 Department subsequently required the Port to conduct further
26 investigations to determine the full extent of contamination at
27 the Site. Pesticide contamination of soil and groundwater and

1 PCB contamination of groundwater have been detected in locations
2 indicated on Exhibit A and summarized in Exhibit B.

3 8. Environmental and Health Effects

4 a. Pentachlorophenol (PCP) has been found in
5 groundwater at levels as high as 110 parts per million (ppm) and
6 in soils up to 6500 ppm (see Exhibit B). PCP is a listed
7 hazardous material (#570B) in Section 66680, Title 22,
8 California Administrative Code (CAC). PCP is a substance which,
9 when contained in any waste at a concentration equal to or
10 exceeding its Soluble Threshold Limit Concentration (STLC) of
11 1.7 mg/l or its Total Threshold Limit Concentration (TTLIC) of 17
12 mg/kg, is a hazardous waste pursuant to Section 66699, Title 22,
13 CAC. PCP is a hazardous substance within the meaning of Health
14 and Safety Code Section 25316.

15 PCP is readily absorbed upon inhalation, dermal, and oral
16 exposure. It is a strong irritant of the eyes, skin, nose,
17 throat, and lungs. Repeated or prolonged exposure can result in
18 chloracne. Other symptoms of exposure include fever, rapid
19 breathing, shortness of breath, chest pain, headache, thirst,
20 nausea, and vomiting. PCP is a teratogen to test animals and,
21 therefore, a possible human teratogen.

22 The Environmental Protection Agency (EPA) has determined
23 that acute toxicity to saltwater aquatic life occurs at
24 concentrations as low as 0.053 ppm and chronic toxicity to
25 saltwater aquatic life at concentrations as low as 0.034 ppm.

26 Chlorinated dibenzodioxins (dioxins) and dibenzofurans
27 (furans) are common contaminants of PCP and have been found at

1 the Site in soil and groundwater. The most highly toxic
2 2,3,7,8-isomers of dibenzodioxins and dibenzofurans have not
3 been found at the Site.

4 Furans and dioxins are among the most toxic substances
5 known to man. They are strong teratogens and carcinogens in
6 experimental animals and, therefore, suspected as human
7 teratogens and carcinogens. They are lethal in low doses to
8 aquatic organisms, birds, and mammals. Acute and subacute
9 exposure can cause hepatic necrosis, thymic atrophy, hemorrhage
10 and chloracne.

11 c. Dichlorodiphenyltrichloroethane (DDT) and its
12 breakdown products have been found in surface soils at 387 ppm
13 and in groundwater totalling 2.79 ppm (sample taken 2-9-85 from
14 well 6). DDT is a listed hazardous material (#247) in Section
15 66680, Title 22, CAC. DDT is a substance which, when contained
16 in any waste at a concentration equal to or exceeding its listed
17 STLC of 0.25 mg/l or TTLC of 2.5 mg/kg, is a hazardous waste
18 pursuant to Section 66699, Title 22, CAC. DDT is a hazardous
19 substance within the meaning of Health and Safety Code Section
20 25316.

21 DDT has a high bioaccumulation potential because it is very
22 soluble in fats and lipids. It is readily absorbed from the
23 intestinal tract and may be absorbed in aerosols or dusts by the
24 lungs.

25 DDT is an experimental mutagen and carcinogen in animals
26 and, therefore, it is a suspected human carcinogen and mutagen.
27

1 Acute doses can cause necrosis of the liver, tremors, and
2 convulsions. The EPA has set a maximum exposure limit of 0.13
3 ppb to protect saltwater aquatic life.

4 d. Aroclor 1260, a polychlorinated biphenyl (PCB),
5 has been found in a groundwater sample from Well 7 at 0.026 ppm.
6 PCBs are listed hazardous materials (#606) in Section 66680,
7 Title 22, CAC. PCBs are substances which, when contained in any
8 waste at a concentration equal to or exceeding their listed STLC
9 of 5 mg/l or their TTLC of 50 mg/kg, are hazardous wastes
10 pursuant to Section 66699, Title 22, CAC. PCBs are hazardous
11 substances within the meaning of Health and Safety Code Section
12 25316.

13 PCBs cause skin disorders such as chloracne, rashes, and
14 irritation. Exposure to PCBs may also result in upper
15 respiratory tract irritation, eye irritation, and asthmatic
16 bronchitis. PCBs are suspected human carcinogens.

17 PCBs resist degradation in the environment. They are lipid
18 soluble and tend to bioaccumulate. PCB exposure to wildlife has
19 resulted in reproductive disorders, growth changes, and
20 behavioral changes.

21 9. Possible routes of exposure to humans from
22 contaminants at the Site include direct contact with
23 contaminated soils and ingestion and inhalation of soil-borne
24 contamination.

25 Contaminants have migrated down through the soil to
26 groundwater. Groundwater contamination has migrated at low
27 levels to off-site wells W-12 and W-13. Contaminant migration

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1 in groundwater can be expected to continue further off-site.
2 There are 8 wells within a one-mile radius of the site used for
3 irrigation and industrial purposes.

4 Contaminants could migrate off-site via surface water
5 runoff to the San Francisco Bay. Contaminants in groundwater
6 could also be migrating off-site into the Bay via a culvert
7 which appears to intercept and divert groundwater at the south
8 end of the site. The culvert appears to intercept groundwater
9 because groundwater flows toward it, and not toward the Bay as
10 would normally be expected. Also, inland wells near the culvert
11 have a quicker tidal response than those not near the Bay.

12 The San Francisco Regional Water Quality Control Board
13 (SFRWQCB) has designated the following existing and potential
14 beneficial uses for the central San Francisco Bay: industrial
15 process and service supply, contact and non-contact water
16 recreation, commercial and sport fishing, wildlife habitat,
17 including rare and endangered species, and fish migration and
18 spawning habitat.

19 III

20 CONCLUSIONS OF LAW

21 1. The substances, as described above, found on-site, are
22 "hazardous substances" as defined by Health and Safety Code
23 Section 25316.

24 2. Respondents are responsible persons or parties as
25 defined by Health and Safety Code Section 25319, 25360, and
26 25385.1(g).

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1 3. This Order complies with the requirements of Health
2 and Safety Code Section 25355.5(a)(1).

3 4. The past, present and potential migration of hazardous
4 substances from the site into the soil and groundwater
5 constitutes an actual or threatened "release" as defined in
6 Health and Safety Code Section 25320.

7 5. Conditions at the Site constitute a nuisance which is
8 injurious to health or offensive to the senses. This nuisance
9 is one which affects at the same time an entire community or
10 neighborhood, or any considerable number of persons.

11 IV

12 DETERMINATION

13 Based on the foregoing Findings of Facts and Conclusions of
14 Law, the Department has determined that:

15 1. Respondents are responsible parties who are required
16 to take the actions ordered below to protect the public health
17 and safety and environment.

18 2. The remedial actions set forth in this Order are
19 necessary to respond to releases or threatened releases of
20 hazardous substances from the Site.

21 3. The actions set forth in this Order are necessary to
22 enjoin and abate a nuisance dangerous to health. Respondents'
23 failure to perform these actions will result in the Department
24 commencing and maintaining all proper and necessary actions or
25 proceedings to abate this public nuisance.

26 MONBAD.003050

ORDER

IT IS HEREBY ORDERED:

A. Remedial Investigation

1. Within 20 calendar days of the effective date of the Order, Respondents shall submit a written notice of their intent to comply with the terms of the Order.

2. Within 60 calendar days of the effective date of this Order, Respondents shall submit a remedial investigation (RI) workplan, to completely characterize releases or threatened releases of hazardous substances. The RI workplan shall comply with the National Contingency Plan (40 CFR part 300) and shall include at least the following elements:

a. Proposed schedule for implementation. The start work date for field work shall be within 30 calendar days of the date of approval of the RI workplan;

b. Description of proposed sampling methods, locations and chemical analyses to be performed. The workplan shall provide for gathering additional information where previous investigations have been incomplete in determining the full extent of contamination as identified in the Department's letter of April 13, 1987 (see Exhibit C). Provisions for sampling and analysis of groundwater on a quarterly basis and a sampling program for assessing potential impacts to San Francisco Bay shall be included in the workplan;

c. Description of quality assurance and quality control measures to be implemented for sampling and analyses;

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1 d. Provisions for determining groundwater flow
2 rates, flow directions and aquifer transmissivities for the "A"
3 and "B" aquifers, and for measuring groundwater levels on a
4 monthly basis;

5 e. Provisions for determining the influence of storm
6 drains and other man-made structures on groundwater flow,
7 including methods to determine whether contaminated groundwater
8 is being intercepted and drained to the San Francisco Bay by the
9 storm drain on Dennison Street.

10 f. Provisions for determining surface water runoff
11 patterns and the sampling and analysis of runoff water;

12 g. Provisions for air monitoring;

13 h. A site map indicating where hazardous materials
14 were stored, transported, handled, or used, with an overlay
15 indicating locations of previously installed and proposed
16 monitoring well and soil sampling locations;

17 i. A site history, including a list of hazardous
18 materials used on site, their estimated volumes and
19 concentrations, and descriptions of manufacturing processes
20 related to the hazardous materials;

21 j. A site health and safety plan for protection of
22 workers in accordance with 29 CFR Part 1910 and third parties
23 such as site visitors and the surrounding community.

24 k. A community relations plan for informing local
25 residents and responding to inquiries from concerned citizens in
26 general accordance with EPA's "Community Relations in Superfund:
27 A Handbook" (March 1986 draft);

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1. Provisions for evaluating the feasibility of implementing interim remedial measures (IRMs) prior to the development and implementation of a remedial action plan.

3. The Department may approve Respondents' RI workplan; reject the RI workplan with the reasons for rejection; or provide Respondents with an approved RI workplan developed by the Department. Respondents shall implement the RI workplan approved by the Department according to the approved schedule. A RI workplan which has been rejected by the Department shall be resubmitted with changes addressing the Department's reasons for rejection, within 14 calendar days of such rejection.

4. Respondents shall submit to the Department a final remedial investigation report according to the approved RI workplan schedule documenting the investigation of the following items related to the Site:

- a. Introduction
 - 1. Site Background Information
 - 2. A Summary of Findings
 - 3. Overview of Report
 - b. Site Features Investigation
 - 1. Soils
 - 2. Hydrogeology
 - 3. Groundwater
 - 4. Surface waters
 - 5. Air
 - c. Public health and environmental concerns
 - 1. Potential receptors
 - 2. Public health impacts
 - 3. Environmental impacts, including to the San Francisco Bay
 - d. Status of community relations activities
- B. Interim Remedial Measures

MCO 0002175

1 Respondents shall undertake IRMs if, during the course
2 of remedial investigation activities, the Department determines
3 they are necessary to mitigate the release of hazardous
4 substances at or emanating from the Site. The Department may
5 require Respondents to submit an IRM workplan, including an
6 implementation schedule and may establish a schedule for
7 submittal of the IRM workplan.

8 C. Remedial Action Plan

9 1. Within 30 calendar days of the effective date of
10 approval of the RI report, Respondents shall submit a revised
11 draft feasibility study/remedial action plan (RAP) prepared in
12 accordance with the National Contingency Plan (40 CFR Part 300),
13 federal Environmental Protection Agency (EPA) guidance
14 documents, and Health and Safety Code Section 25356.1 and
15 Department guidance on RAP procedures. This plan shall include
16 a community relations program to inform local residents about
17 site activities and to respond to inquiries from concerned
18 citizens and organizations.

19 2. Within 30 calendar days of a public hearing held
20 pursuant to Health and Safety Code Section 25356.1, Respondents
21 shall finalize and submit to the Department the draft final RAP.
22 The final RAP must consider and include, whenever appropriate,
23 all written comments received.

24 3. Within 60 days after the Departmental approval of the
25 final RAP, Respondents shall submit to the Department a detailed
26 engineering design of the approved site mitigation alternative
27 and a schedule for implementing the construction phase.

1 4. Upon Department approval of the engineering designs
2 and construction schedule, Respondents shall implement the
3 remedial actions in accordance with the approved schedule.

4 5. Respondents shall be responsible for all operation and
5 maintenance requirements to be developed as a part of the final
6 RAP.

7 D. Other Provisions

8 1. Monthly Summary Reports. Within 30 days of the
9 effective date of this Order and monthly thereafter, Respondents
10 shall submit a Monthly Summary Report on their progress toward
11 compliance with the provisions of this Order, including specific
12 actions taken in the previous calendar month and actions
13 proposed during the current calendar month. The Monthly Summary
14 Report shall be received by the Department by the 15th day of
15 each month.

16 2. Project Engineer/Geologist. The work performed
17 pursuant to this Order shall be under the direction and
18 supervision of a qualified professional engineer or a certified
19 geologist with expertise in hazardous waste site cleanup. The
20 name and address of the project engineer or geologist chosen by
21 Respondents shall be submitted to the Department within 45
22 calendar days of the effective date of this Order.

23 3. Exhibits. All Exhibits attached hereto are
24 incorporated herein by this reference.

25 4. Incorporation of Plans and Reports. All plans,
26 schedules, and reports submitted by Respondents pursuant to this
27

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1 Order that require Department approval are deemed to be
2 incorporated in this Order upon approval by the Department.

3 5. Submittals. All submittals required by this
4 Order shall be addressed to:

5 Dwight R. Hoenig, Chief
6 North Coast California Section
7 Toxic Substances Control Division

8 By Mail:

9 2151 Berkeley Way, Annex 7
10 Berkeley, California 94704

11 By Courier:

12 5850 Shellmound Avenue, Suite 100
13 Emeryville, California 94608

14 All approvals and decisions of the Department made
15 regarding such submittals and notifications shall be
16 communicated to Respondents by the Section Chief or his designee
17 in writing. No informal advice, guidance, suggestions or
18 comments by the Department regarding reports, plans
19 specifications, schedules or any other writing submitted by
20 Respondents shall be construed to relieve Respondents of their
21 obligation to obtain such formal approvals as may be required
22 herein.

23 Copies of all submittals shall be sent simultaneously to:

24 Donald Dalke
25 San Francisco Regional Water
26 Quality Control Board
27 1111 Jackson Street, 6th Floor
Oakland, California 94607

Rafat Shahid
Alameda County Health Department
470 27th Street, Room 325
Oakland, CA 94612

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MCO 0002178

1 6. Time Periods. Unless otherwise specified, time
2 periods begin from the effective date of this Order and are
3 based on calendar days.

4 7. Modifications. Either the Department or
5 Respondents may request modification, termination or revision of
6 this Order or any portion of this Order or any program or plan
7 submitted pursuant to this Order at any time. This Order and
8 any applicable program, plan, or schedule may be modified,
9 terminated or revised by mutual agreement at any time. The
10 Department reserves the right to unilaterally modify this Order.
11 Any modification made pursuant to this section shall be
12 effective upon issuance and deemed incorporated in this Order.

13 8. Compliance with Applicable Laws. Respondents shall
14 carry out this Order in compliance with all applicable local,
15 state, and federal requirements, including requirements to
16 obtain permits and to assure worker safety.

17 9. Endangerment During Implementation. In the event that
18 the Chief of the Regional Section of the Toxic Substances
19 Control Division of the Department determines that any
20 activities or circumstances are creating an imminent or
21 substantial endangerment to the health and welfare of people on
22 the site or in the surrounding area or to the environment, the
23 Regional Section Chief may order Respondents to stop further
24 implementation of this Order for such period of time as needed
25 to abate the endangerment. Any deadline contained in this Order
26 which is affected by a stop work order under this section shall
27 be extended for the term of such stop work order.

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10. Department Review and Approval. The Department shall review any document which Respondents are required to submit for Departmental approval pursuant to this Order. The Department shall notify Respondents in writing of its approval or disapproval of said document. In the event the Department determines that such a document is not satisfactory and cannot be approved, the Department shall submit to Respondents its review and evaluation of said document, setting forth the reasons for its disapproval and any recommended changes. Unless otherwise specified, within thirty calendar days of receipt of said review and evaluation, Respondents shall submit to the Department for approval a revised document addressing the Department's comments.

11. Sampling, Access, and Data/Document Availability. Respondents shall permit the Department or its authorized representatives to inspect and copy all sampling and monitoring data in any way pertaining to work undertaken pursuant to this Order. Respondents shall allow duplicate samples to be taken by the Department and/or its authorized representatives, of any samples collected by Respondents pursuant to the implementation of this Order.

The Department and/or its authorized representatives have the authority to enter and freely move about all property at the Facility at all reasonable times for the purposes of, inter alia: inspecting records, operating logs, and contracts related to the Facility; reviewing the progress of Respondents in carrying out the terms of this Order; conducting such tests as

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1 the Department may deem necessary; and verifying the data
2 submitted to the Department by Respondents. All parties with
3 access to the Facility pursuant to this paragraph shall comply
4 with all approved health and safety plans.

5 12. Government Liabilities. The State of California shall
6 not be liable for any injuries or damages to persons or property
7 resulting from acts or omissions by the Respondents, its
8 employees, agents or contractors in carrying out activities
9 pursuant to this Order, nor shall the State of California be
10 held as a party to any contract entered into by the Respondents
11 or its agents in carrying out activities pursuant to this Order.

12 13. Additional Enforcement Actions. By issuance of this
13 Order, the Department does not waive any further enforcement
14 actions.

15 14. Parties Bound. This Order applies and is binding upon
16 the Respondents, their successors and assigns.

17 15. Severability. If any provision or section of this
18 Order is found invalid by a Court, all other sections shall
19 remain valid and in effect.

20 IV

21 PENALTIES FOR NON-COMPLIANCE

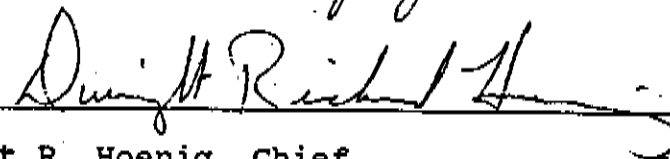
22 Failure or refusal of Respondents to comply with this Order
23 may make Respondents liable for any costs incurred and payable
24 from the Hazardous Substance Account or the Hazardous Substance
25 Cleanup Fund for any remedial action at the Site pursuant to
26 Health and Safety Code Section 25360. These costs include
27

1 administrative costs in an amount equal to 10 percent of the
2 reasonable costs actually incurred, or five hundred dollars
3 (\$500), whichever is greater.
4

5 EFFECTIVE DATE

6 This Order is issued and is effective upon signing on the
7 date noted below. All times for performance or response
8 activities shall be calculated from the effective date.
9

10 It is so Ordered this 8 day of July, 1987.
11 1987.

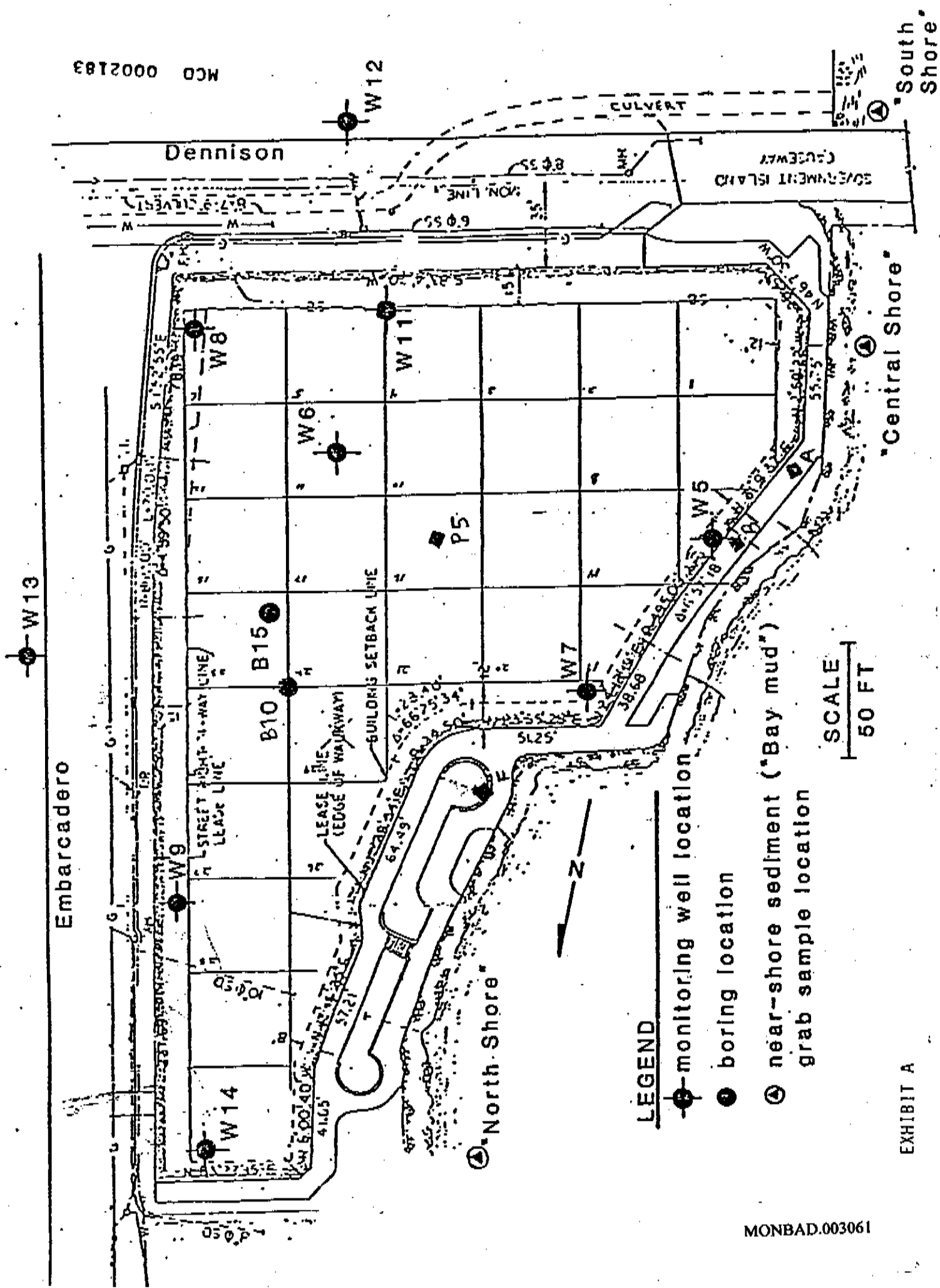
12 

13 Dwight R. Hoenig, Chief

14 North Coast California Section

15 Toxic Substances Control Division
16
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24
25
26
27

MCO 0002182



LEGEND

- monitoring well location
- boring location
- ⊙ near-shore sediment ("Bay mud") grab sample location

SCALE
50 FT

EXHIBIT A

EXHIBIT B: Levels of contaminants in soil and groundwater at the Port of Oakland Embarcadero Cove Site. Groundwater results for PCP and DDT are from samples taken October, 1985. Dioxin and furan groundwater results are for samples taken April, 1986. Soil results are for samples taken at various periods of investigation.

CONCENTRATION (ppm)

<u>GROUNDWATER</u>	<u>PCP</u>	<u>DDT*</u>	<u>PCB**</u>	<u>FURANS</u>			<u>DIOXINS</u>		
				<u>penta</u>	<u>hexa</u>	<u>hepta</u>	<u>penta</u>	<u>hexa</u>	<u>hepta</u>
WELL 5	39	0.045	ND	ND	ND	ND	ND	ND	ND
WELL 6	110	0.24	ND	ND	0.281	2.66	ND	0.0985	2.00
WELL 7	0.081	ND	0.026	—	—	—	—	—	—
WELL 8	0.012	ND	ND	—	—	—	—	—	—
WELL 9	45	0.92	ND	ND	0.950	10.7	ND	0.430	9.77
WELL 11	0.018	ND	ND	—	—	—	—	—	—
WELL 12	0.013	ND	ND	—	—	—	—	—	—
WELL 13	0.012	ND	ND	—	—	—	—	—	—
WELL 14	0.012	ND	ND	—	—	—	—	—	—

CONCENTRATION (ppm)

<u>SOIL</u>	<u>PCP</u>	<u>DDT</u>	<u>penta</u>	<u>FURANS</u>		<u>penta</u>	<u>DIOXINS</u>		<u>hepta</u>
				<u>hexa</u>	<u>hepta</u>		<u>hexa</u>		
Site F, surface	ND	387							
P5 0.5-1.5'	320	ND							
1.5-2.25'	1,900	ND							
Site A, surface	ND	134							
Site B, surface	45	49							
B-10									
4-5'	1,600	ND							
7.5-8.5'	6,500	ND							
12-13'	160	ND							
15-16'	410	ND							
B-15									
2.25-3.0'	210	—	ND	0.0159	0.662	ND	0.006	0.0908	
3.0-4.0'	190	—							
5-6'	1,200	—	0.0025	0.096	0.661	ND	0.0270	0.830	
6-7.5'	430	—	ND	0.0233	0.0716	ND	0.0024	0.109	

* Concentrations are for the sum of the DDT, DDD and DDE isomers.

** Aroclor 1260

ND = not detected.

MCO 0002184

MONBAD.003062

Monsanto

S
Superfund Sites
Avon

FROM
(NAME-LOCATION-PHONE) C. H. McComb - Avon/1090

DATE March 7, 1988

CC:

SUBJECT PERSONNEL RESPONSIBLE FOR ENVIRONMENTAL
AFFAIRS AND WASTE DISPOSAL

REFERENCE
Avon Plant, Martinez, CA

TO
Donald L. Weber - EINE

As you requested, names and titles of personnel responsible
for Environmental Affairs and Waste Disposal for the Avon
Plant from 1960 to present are as follows:

PERIOD	PLANT MANAGER	PRODUCTION SUPERVISOR	ENVIRONMENTAL REPRESENTATIVE	COMMENTS
1960-1966	Dominic Dana	Jim Connaughton Bob Powell	unknown	Exact years of service unknown
	Paul Edwards	Bob Powell	unknown	
	Karl Ellingson	Bob Johnson Don Minges	unknown	
1966-1970	Bill Merman	Don Minges	AA Lindroth	
1971-1975	Vince Matteucci	Don Minges	WR Peckol (71-74) John Grimes (75)	
1975-1977	James Nisbet	Don Minges	John Grimes	
1977-1982	Baxter Tilford	WD Woodyard (77-79) Don Minges (79-82)	John Grimes (early 82) CP Freeburgh (mid 82 on)	
1983-1986	Don Minges	Benise Quesada	Mario DiGiovanni	
1987- Present	Charles H. McComb	Darrell Archuleta	Mario DiGiovanni	

C. H. McComb
C. H. McComb

MONBAD.003063

MCD 0061347

AVON PLANT HISTORY

- 1953 - A sulfuric acid plant was constructed as a joint venture with Tidewater Oil Co. and a Monsanto owned phenol plant was started up. The site consisted of 330 acres. There were 90 employees at end - 1953.
- 1961 - A phenolsulfonic acid unit was installed.
- 1963 - The phenol unit was shutdown and a sulfur recovery unit was added. The Sulfur Recovery Unit was owned by the refinery and operated by Monsanto. Plant employment peaked in 1963 at 100.
- 1966 - Tidewater sold its interest in Avon to Phillips Petroleum Co.
- 1967 - The Phenolsulfonic Acid unit was shutdown.
- 1970 - Monsanto's Sulfuric Acid Plant and Soft Alkylbenzene catalyst production units were relocated from the Krummrich Plant to Avon.
- 1976 - Phillips sold their interest at Avon to Tosco.
- 1979 - The Soft Alkylbenzene Catalyst Operation was shutdown.
- 1982 - December, 1982, Monsanto sold its interest in the Acid Plant and all but 35 acres of the site to Tosco and signed a contract with Tosco for utilities and waste treatment for the catalyst plant. After separation from Tosco, Monsanto's headcount was 21.
- Present - Sulfuric Acid Plant Catalyst remains the sole finished product at Avon. Current Monsanto headcount is 15.

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MCO 0061349

MONSANTO

Process History

Phenol Plant: 1953-1963

Process: Sulfonation (No details available)

Raw Materials: Benzene, NaOH, H₂SO₄, Oleum

Products: Phenol

Sodium Sulfite

Sodium Sulfate

Wastes: Phenate mother liquor-discharged to evaporation ponds.

Excess sulfate/sulfite: in saltcake pile

Phenol still bottoms - sent to redistiller

Phenolsulfonic Acid: 1961-1967

Process: Sulfonation with 25% Oleum (No details available)

Raw Materials: Phenol

Oleum

Product: PSA

Wastes: Oleum/Phenol waste stream: sent to refinery wastewater plant (WWT)

Sulfuric Acid: 1953-1982

Process: Contact Sulfuric Acid Process

Raw Materials: Sulfur-rich Coke

Sulfur

Hydrogen Sulfide Gas

Refinery Fuel Gas

Alkylation Spent Sulfuric Acid

"Soaper" Spent Sulfuric Acid

Products: 93%, 98% Sulfuric Acid

20%, 25% Oleum

Wastes: Sulfuric Acid Catalyst: Recycled off-site after 1970

Unknown prior to 1970

Weak sulfuric acid/soot: sent to TOSCO WWT after early 1970's

Sulfur and coke spills: discharged to Hastings Slough 1953-early '70's

Sulfur Plant: 1963-1982

Process: Claus Process

Raw Materials: Hydrogen Sulfide Gas

Refinery Fuel Gas

Air

Foul Water Gas (H₂S and NH₃)

Product: Sulfur

Wastes: Boiler Blowdown: to TOSCO WWT

Spilled Sulfur: To landfill, mostly off-site, some on-site.

In 1977-82 period IT Corp. and Chem. Waste Mgt.

Spent Alumina Catalyst: Landfilled at unknown off-site

Tars from Foul Water Drum: Post 1977-landfilled at IT or

CWM; pre-1977 landfilled off-site, pre-1970 may have been landfilled on-site.

MONBAD.003065

MCO 0061350

(MONSANTO, con't.)

DEA Stripper: 1958-1982

Process: Absorption/stripping of H_2S and CO_2 from diethanolamine Solution.

Raw Materials: DEA Solution consisting of 40% DEA in alkaline (pH 10-11) solution.

Product: H_2S/CO_2 gas stream

Wastes: Cleanout sludge from stripping system-disposition unknown. Old heat exchanger bundles covered with sludge - may have been land-filled on-site.

F-210 Catalyst: 1970-1979

Process: Alumina supported Pt/Cu/K catalyst

Raw Materials: Platinum Diamino Dinitrite

Cupric Nitrate

Potassium Nitrate

Alumina Spheres

Ammonium Hydroxide

Product: F-210 Catalyst

Wastes: Weak Ammonium Hydroxide: sent to TOSCO WWT

Sulfuric Acid Catalyst: 1970-present

Process: Alkali metal and Vanadium complex sulfate on diatomaceous earth support.

Raw Materials: Ammonium Metavanadate until 1974

Vanadium Pentoxide 1974-present

Monopotassium phosphate 1977 only

Diatomaceous earth

Potassium hydroxide

Potassium Sulfite

Potassium Silicate

Stearic Acid

25% Oleum

Product: Sulfuric Acid Catalyst

Wastes: V205 contaminated trash: Until 1987, these were sent to Class II Catalyst contam. trash landfills

Wet product fines : These items were stored for several years
Non-recoverable wet until certain they could not be recycled,
intermediate then sent to a Class I hazardous waste
landfill.

Dry product or Inter- : This waste has been consistently
mediate fines not re- recycled off-site since 1970. Large
cyclable at Avon quantities were stored on-site for
several years pending recycle.

Weak sulfuric acid : sent to TOSCO WWT
effluent

MONBAD.003066

MCO 0061351

(MONSANTO, con't.)

OTHER PROCESSES/WASTES

Sulfur Plant IFP Tail Gas Unit: 1976-1982

Wastes: Mixed Polyethylene glycol/sulfur sludge: landfilled off-site at IT or CWM.

Maintenance: Typical maintenance wastes usually sent to Class II landfill (e.g. oily rags, metal scrap, asbestos. Used oil and solvent in small volumes sent to reclaimer).

Laboratory: Most wastes are sewered and were for many years. Lab trash went to a sanitary landfill. Current lab solid waste is disposed of as hazardous, if necessary.

PCB Waste: 6 PCB Capacitors were disposed of in 1981.

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MCO 0061352